

You know, when you pass laws like Senator [Pete] Domenici did that say you can't close an office so close to someplace else, or Senator [Fritz] Hollings, South Carolina, did for the Charleston folks, or [Dan] Rostenkowski in Chicago—I mean, there's a big guy everywhere.

Q: Right.

A: At one time, in the Ohio River Division, we had both the Senate majority leader and the Senate minority leader in our area of operations, Senators Howard Baker and Robert Byrd. Congressman Whitten was there with the Tenn-Tom in Mississippi. We had some good folks.

So, if anybody wants to make sure nobody objects, you're never going to get there. So, the Corps had a plan, and it was in the base realignment and closure plan and the right place, and I think the Bush and Clinton administrations and Congress lost an opportunity. It had been done right.

Q: They lost the appetite to implement it?

A: Yes.

Q: One quick question. When the Central Division study with the division engineers was ongoing, about what's the time frame on that?

A: I would suppose it was—I left in the summer of '84—in the winter of '83-'84. I might be wrong.

Q: We might not find any record of that. You said it was a quiet one.

A: It's probably in General Heiberg's personal files.

Commanding General, U.S. Army Engineer Center and Fort Belvoir¹

Q: In the summer of 1984 you became commanding general of the Army Engineer Center and Fort Belvoir. Could you have been better prepared for the job?

A: I don't really think so. I believe my background of assignments, experience, the fact that I had come up through the ranks and served in almost all kinds of engineer battalions, had served in both heavy divisions and light airborne divisions, had served at Corps and at division, commanded a combat heavy battalion in Vietnam, and worked at not only a troop unit level but also at major Army command level and Department of the Army level on staffs, that I really knew how the Army worked, how units worked, and how things needed to be done, knew a lot about engineers and training and professional development, and therefore

¹Interview conducted by Dr. John T. Greenwood on 29 June and 13 July 1987 at Fort Belvoir, Virginia.

was appropriately prepared. I don't think I could have done more to be better prepared. Although I will say I didn't really fully understand the breadth or the scope of my duties when I arrived, but it only took me about one week to find out how broad those were. I think my preparation for that was there. I just wasn't quite aware of the position responsibilities in total.



*General Kem (center) at his promotion to major general in July 1984.
On the left is Lieutenant General Joseph K. Bratton, Chief of Engineers,
and on the right is Ann Kem.*

Q: Which is pretty normal, wouldn't you think?

A: It might be normal, but I think there has been a change in the role of the commandant over these past several years, that General William R. Richardson at TRADOC and General Carl Vuono at the Combined Arms Center really put into place—that is those things having to do with the word “proponent.” I had thought from outside and other assignments in the Corps that the word “proponency” had to do with personnel proponency only. I found out that it meant responsibility for the engineer force and the total Army in all aspects of doctrine; force modernization, that is both force design and materiel modernization; training, both individual and unit; and in personnel policy. General Richardson always said, “I want the commandant of the Infantry School to be chief of his branch, Chief of Infantry. Well, we have a Chief of

Engineers; nevertheless, for the engineer force, those same connotations of what he ascribed to the commandant of the Infantry School pertained to me as the proponent for engineers.

One of those other things that I did not understand was the fact that we are responsible here at Fort Belvoir, as engineer proponent, for the programs of instruction that are taught at Fort Leonard Wood. We have here those kinds of responsibilities and have, in fact, a field team permanently located at Leonard Wood to exercise those responsibilities.

Q: What guidance did you receive at the beginning of your tour?

A: Well, I met with my two major bosses. General Vuono, who was the commander of the Combined Arms Center, wanted me to be proactive, wanted me to absolutely ensure the integration of engineers into the combined arms team, told me if he was the Corps commander, I was his Corps engineer and we ought to make things fit that way. He wanted me to focus on AirLand Battle doctrine and ensure we embedded the tenets of AirLand Battle doctrine in all things we do. Basically, he emphasized that we set the standards for the Army in TRADOC and CAC and I should be the standard setter for the engineer force and I should actively pursue bettering that force through TRADOC and throughout the Army. That meant working things through the Pentagon and working things through CAC.

General Richardson actually was probably more specific describing the proponent's role. He specifically laid that out in the terms that I used for the last question. He expected me, as the engineer proponent, to take charge, make sure we did everything possible to improve the effectiveness of engineers. He told me he didn't think we engineers were very effective and we were badly broken and we needed a lot of work to be repaired. He said, "Your job is to go



General Kem (second from left) received the school colors from General Carl Vuono, Commanding General, Training and Doctrine Command, when he became Commander of the U.S. Army Engineer Center and Fort Belvoir, Virginia.



General Kem (right) and Major General James N. Ellis, departing Commander of the U.S. Army Engineer Center and Fort Belvoir, Virginia, at the change of command ceremonies on 21 August 1984.

out and do that, and that means working not only at Belvoir.” The way he put it was, “You’re not responsible for just engineers and how combat engineers are taught at Fort Belvoir. You’re responsible for engineers in the total force and how the commandant of the Armored School instructs in the use of engineers at Knox and the same at the Infantry School at Fort Benning and at the Combined Arms Center at Fort Leavenworth and so forth.”

In other words, I was and am responsible as proponent not only for engineers in the total force, but the engineer functional areas as they are taken care of by the rest of the Army—mobility, countermobility, survivability, sustainment engineering, and topography. His challenge to me was to work within the system. He felt that engineers needed to be fixed, I should go do the fixes, and I should work within the TRADOC context.

I did have one other call and that was with General John A. Wickham, who was Chief of Staff of the Army at the time. His challenge on a broader scale was, “You’re now in charge. I expect you to set the standards within the engineer force. TRADOC has an important mission, preparing the Army for war, and thus you’ll be doing your part of that. You should look to try to lighten the force. Seek ways, materiel systems, by which one could lighten things.” He was speaking mostly materiel systems, but also other things.

Q: Now, did you accept General Richardson’s viewpoint that the engineers were broken and had to be fixed, or did you analyze that and see that that may not have completely been the case and adjust your reactions?

A: No, I absolutely believed it to be so. From my experience in the past, I felt that we were the weak link in the combined arms team; that we had been left behind by the Army in the modernization efforts; that people did not fully understand, respect, and value the engineers’ role to the combined arms team, primarily because throughout the many places we trained, like Europe and our REFORGER exercises, we simulated so very much. The white engineer tape simulates a mine field and simple rules of obstacle engagement provide a nonrealistic scenario—too short a delay, for example, in front of an obstacle. That takes away the credence of the contribution of the engineer. Obstacles don’t seem like such a battlefield factor when you simulate it and do away with it so easily. So, I felt that engineers had not kept pace with the rest of the Army. We were woefully deficient in organization design and equipment, primarily. We had great esprit—all of our troops were doing their damndest—but we really had not kept pace. The Army had not allowed the engineers to keep pace with the rest of the combined arms team.

So, I agreed with General Richardson. Importantly, when he was talking to me, I recognized that he also understood those things.

Q: Did you set yourself a series of specific goals or objectives, then, to try to remove these problems?

A: No, I didn’t establish any series of objectives or goals. I really worked within the rather macro objectives and goals that were already established, but it all blended together rather nicely. First of all, the TRADOC mission—prepare the Army for war; be an architect for the

future. Second, the fact that my two bosses said, “Take charge. It’s broken. Go fix it and do it in terms of integrated combined arms.” Third, my own background experience and very recent experience in Europe where I could see that during REFORGER training exercises that we just were falling farther behind and couldn’t keep pace. All of those ideas blended to fit the agenda that I came in with and the feeling that we had to get it fixed. Now I was being given a position whereby I had the responsibility to get it fixed. I couldn’t watch or send letters to somebody else; I now had that responsibility.

That, then, was accompanied by the massive lessons learned that were coming out of the National Training Center [NTC] with each rotation. There the simulations went by the board. The value of the engineer to the combined arms team was really being represented at the NTC most often by units failing because the engineers were the broken part of the team. We were finding all these ways the maneuver units and engineers were trying to create band-aid solutions to the problems out there. That became a fourth catalyst, and all that came together and met very nicely my inkling and desire to fix it—the combat engineer system. Consequently, I then established a game plan, a strategy for analysis, assessed the parts, and developed a strategy to approach how we could go about fixing it.

I didn’t set, in answer to your question, specific goals and objectives. I recognized that we had to address the engineer system across the entire spectrum of proponentcy—that is, doctrine, organization design, equipment, training, and personnel. You couldn’t do just any one or the other, although some of them are easier to work on than others. That is, doctrine, training, and personnel are soft things that you can tend to work on within resources. The problems with force structure and materiel solutions are that you are now having to work within the whole Army and you now compete for approvals and time and bucks and so they become more difficult.

Q: So, what was your strategy, then? Obviously your two bosses were supportive of your efforts.

A: The strategy really came about to address combat engineers across all of those functions. We began to put together an analysis and coalesce maneuver opinion and maneuver commander support for the recognition of the engineers’ role and capability—realistically. See, I’ve maintained for some time that very often engineers have been their own worst enemies because we tell people things are great when, in fact, they aren’t great.

Our maneuver folks know, however, in the realistic situations we provide them on the realistic battlefield environment, like at the NTC, that we engineers don’t provide the combat support they need—in their terms. We may provide what we engineers talk about as great support, but it’s in our terms, like with a five-ton dump truck, like breaching with bayonets, but it’s not in the terms of guys who talk mobility and maneuver, like General Saint or General Bob RisCassi. When they talk maneuver, they talk about moving out.

Maybe my background, starting off in the 3d Armored Division’s 23d Engineers years ago, gave me a feeling for the thinking of the armor maneuver commander and today’s battlefield. Even tailored by my subsequent time in the 82d Airborne with can-do folks down there, it was apparent to me that we weren’t talking the same language. Some engineers think we’re

okay, but they're defining things in their terms. So, what I did was to define the engineers' role in maneuver-commander terms.

So, my focus throughout my time here has been on engineer warfighting as an integrated part of the combined arms team on today's AirLand battlefield. When you do that, then engineers can't support that maneuver commander in the terms of how he intends to fight. So, what Vuono was describing at the Combined Arms Center as the AirLand Battle and what RisCassi and Saint were describing as how they were going to fight, engineers were not going to be able to do the job they expected of us in real time.

So, what I did then was put together in that first year an analysis of the engineer contribution to the combined arms team and, by visiting many different places, assembled the feelings of many different maneuver commanders and put that together in a briefing that really said, "Engineers have been left behind in modernization. We are now the weak link in the combined arms team." I briefed that around to the four stars and others and received a wide acceptance of that viewpoint. Only General Glenn Otis of all the four stars I briefed—and I did not brief Chief of Staff General Wickham; it was all below the Chief of Staff—only General Otis said that he thought we were tied at the bottom with air defense. Then I pointed out that air defense was on the way to climbing out of the hole based on the Army's creating a \$11 billion forward area air defense program. So, my strategy really was to lay it out on the table for what it was. In terms of the maneuver commander, we engineers were broken in the forward part of the battle area. Putting it in their terms and using experiences gained at the NTC, I was able to get a very broad understanding of that view. That was my first year.

As we ended the first year, I was looking across the board of the proponent functions trying to determine what could be done. We spent a lot of time that first year trying to save the M9 ACE, which was going into extinction based on a report by the Operational Test and Evaluation Agency. That challenge then became a field test and evaluation to be held in 1985 down at Fort Hood. So, I spent a lot of time that first year, 1984–1985, in working toward that important test of the M9 ACE.

By visiting the NTC, by assimilating the lessons learned, by interacting with people all over, by working that first year on the redesign of the echelons above Corps part of the Army, which was a TRADOC/CAC initiative, there were plenty of things keeping us busy. It was not always easy to carve out time for independent thought analysis. We put all of our thoughts together and started fleshing out the game plan of where we wanted to go.

So, at the end of that first year, then, what had been analysis plus articulation of the problem then turned to addressing what to do about it. Out of that came the concept of E-Force [or engineer force] with the redesign of the engineer part of the Army as a refinement of the Army of Excellence design. See, the Army had just gone through a whole new organizational initiative called the Army of Excellence in which all of the organizations had been changed and redesigned. I maintained that although we had done engineers too, and some parts of the engineer team were all right, specifically in the communications zone where we'd gotten new equipment because it was commercially produced and we could use commercial equipment, that part of the engineer portion was all right. Where we were broken was in the forward

battle area. The National Training Center and the lessons we were learning out of there showed that our Army of Excellence designs were flawed. We had to consider a near-term refinement; we couldn't wait another 15 years. Then we developed the concept of E-Force, which addressed the communications zone and the echelons above Corps in our first year and then we addressed the light forces in the second year because the Army and TRADOC were focused on that.

Then we focused on the close combat heavy part of the engineer force—that is, the engineers in support of our armored and mechanized infantry divisions in the NATO environment—as the place where we were most broken. Out of that, then, developed our new concept for the division engineer, the regimental-sized organization, in the close combat heavy force. So, all of that developed and was coming to a culmination in late 1985. Want me to go on?

Q: Yes, take it on. That's exactly what we want you to do.

A: So, in 1985 General Vuono left to become the DCSOPS of the Army and General RisCassi came in to command CAC. General Richardson stayed as commander of TRADOC, and he, of course, had told me to come back with a fix. In the fall of 1985 at the TRADOC commanders conference, I briefed the engineers in AirLand Battle, a briefing I had taken to all the four stars. Then I began briefing the E-Force concept to General RisCassi and then on up to General Richardson and TRADOC, specifically the remaining piece—engineers in the mech and armored divisions, the division engineer organization of three battalions, three line companies each. This was a revolutionary concept, in some aspects, of how we should do things.

It was really evolutionary. It's only revolutionary because some people seem to think you can get by with only the single divisional engineer battalion in a division. However, we know from the history of World War II that throughout the European campaigns, Corps engineer battalions were attached and stayed with divisions throughout the fight. A post-World War II study group looked at that experience and said, "We ought to put more engineers into the division." Over the years that idea has just been kept away. So, it's only revolutionary if you think that one battalion is all the heavy division needs.

It's really evolutionary when you see that what we're trying to do is take the divisional engineer battalion and the Corps engineer battalion that's typically, normally, almost always OPCON [operational control] or attached to that division—like currently in Germany, just take those assets and reorganize them so they really can do the job of that maneuver commander in the time frame that he wants it. So, we took that sort of a bastardized organization, what I call ad hoc, and all the ad hoc arrangements we engineers had to put together to try to make our World War II system work for the maneuver commander, and tried to bring it to a new organization that was tailored to the demands of the AirLand battlefield and the demands of that maneuver commander who's got the problem of synchronizing all of his combat power. From that standpoint it's evolutionary because we don't require more spaces and we use the same equipment, although we want modern equipment to get into today's age. It really puts the right kind of command and control in an

organization to get the engineers at the point of battle when they're needed and not to have to be called up and not have to send back for what was needed.

It was revolutionary from the standpoint of people changing their thinking, if they were academicians. It's evolutionary when you've been out there on that battlefield and you know what you need as a maneuver commander and you know when you don't get it. You know it's available back there somewhere, but you just can't quite get it.

In about October 1985, Colonel Chris Conrad, who had been a brigade commander in the 4th Infantry Division with a lot of NTC experience, wrote a two- or three-page think piece that really hit home on what was wrong with the engineer part of the combined arms team. He said things like, "Engineers could be the most valuable contributor to combat power in the brigade, but we seldom use their full potential." He said things like, "We've got enough engineers, we just don't have them put together right." He initially said, "What I want is that engineer company attached to me." His thinking was, "Give it to me; I can make it work."

We had him out along with some other armor and infantry commanders because we were putting together our concept or fleshing out our thinking on how this division engineer should be organized. We had all of them to Fort Belvoir and did a lot of talking around. He said, "No, I recognize my paper was at fault. I really want that company for every task force. I want them to tie in together at the brigade. That's what I should have, and it just doesn't work the way it is. I've gone out to the NTC with a Corps type of company along with my divisional company. I want all engineers organic to the division, and I need a battalion element for my brigade."

So, with that and with his help and the help of these other maneuver commanders, we then fleshed out our concept and began briefing that throughout the Army to division commanders, to the Combined Arms Center, and to General Richardson. [See Appendix C.]

It was widely accepted by those we briefed. Anybody who had been to the NTC knew it was right. We had lieutenant colonels and colonels with NTC experience tell us—when asked the question, "Can you use it now or do we wait until we get the modern equipment to go with it?"—"Give it to me now. I'd go to the NTC and do a lot better right now with today's equipment. It'll be even better with the modernized equipment; don't give up on that either." We briefed around and never had a maneuver commander who did not agree with the concept.

I took it back to General Richardson, who wanted us to evaluate the other alternatives. First, address all the other alternatives from other staffers who thought you could do it this way or that. We did that, and in every case E-Force was the most effective option against all other options measured in terms of effectiveness to the maneuver team. He asked us also, though, to consider a fourth battalion in the division engineer organization. It was a regimental-sized organization, but we didn't call it a regiment. I lost my train of thought.



General Kem (left), Commandant of the Engineer School, congratulated his son, Second Lieutenant John Kem, on his graduation from the Engineer Officer Basic Course on 27 November 1985.

Q: You were talking about having talked to other people about the concept and getting opinions.

A: The fourth battalion. As we put the concept together, we had kept it to just the three battalions that would be with a maneuver element forward. General Richardson felt that we ought to consider a battalion who'd work in the division's rear as well. We put together an option that did that, took that up to him and recommended that we not proceed that way, that we felt that there was no flexibility forward. When you were committed in the forward brigade area, you were committed. We could retain some battalions at Corps who would work in the division area, rear area, on line of communication work, and that would provide that kind of flexibility.

Forward in the brigade area we needed that habitually OPCON association of engineers. We needed the ability to be agile like our infantry and armor counterparts and we had to have units that were fully agile and could move with them. We saw two different kinds of effort,

and we convinced him that we should keep the original design. So, we proceeded with that design after that. However, time with General Richardson on deck as TRADOC commander ran out, and we did not proceed with the concept to the Chief of Staff of the Army at that time.

General Vuono then came back to be TRADOC commander. Basically, with the many changes of personnel throughout the year, we had to start over briefing a new Forces Command commander; a new Combined Arms commander, General [Gerald T.] Bartlett; a new Armor School commandant, General [Thomas H.] Tait. Therefore, we went back on the road to go around and touch the bases again and brief the E-Force concept. General Bartlett became a very solid supporter, as did General Tait. Throughout, those TRADOC commandants associated with maneuver gave E-Force strong support; that is, RisCassi and Bartlett at the Combined Arms Center, Tait at the Armor School, [Edwin H.] Burba at the Infantry School, [Frederick M., Jr.] Franks at the Command and General Staff College—in other words, the doctrine guy at Fort Leavenworth—and Charlie Ottstott, the new commander at CACDA [Combined Arms Combat Development Activity].

In February I talked with General Vuono, who then felt that in the waning months of General Wickham's time as Chief of Staff, it was inappropriate to take other new things forward. So, it continues now with one remaining piece of E-Force not implemented. That is, we've done the echelons above Corps, those engineers who work in the communications zone. We've done the light force. The heavy force engineers part of the E-Force remains to be taken forward under, once again, a new regime—General Reno, General Max Thurman, General Bartlett's still a strong supporter—back up to the Chief of Staff.

Q: Should things like that be held back because of those changes or should they go forward anyway? I mean, it's a significant, very significant change to take place, isn't it?

A: I think they should go forward anyway, but the realities are that to make things work, you've got to sign folks up. We needed a consensus, and so consensus building was a great part of the effort. It was not difficult because the consensus was already there: the engineer part of the combined arms team was broken. I found that the maneuver folks were looking for an engineer who agreed that it was broken and would come up with a plan to fix it, and fix it in their terms—maneuver terms. Having done that, then the many comments we got back from infantrymen, the tankers, and the artillery as we went about in the combined arms arena allowed us to refine the concept so that we got a package that everybody solidly felt was needed at the levels we work in—that is, divisions, TRADOC, FORSCOM, USAREUR.

Yet, when you approach the Department of the Army level, you approach people who worry in terms of dollars and bigger agendas and how things work in the bigger arena. So, it's easy to say, "Yes, they should proceed right ahead," but you do have to keep your consensus together and ensure that you are going to be receptive at the top. The feeling was that General Wickham, like a lot of people, very naturally had a plate full of agenda items he was trying to wrestle to the ground before he left, and there wasn't time for new ones.

Q: Do you think it's going to have a favorable reading, though, to the new Chief of Staff, who himself has been involved with it before, when it gets there?

A: I think so. I think General Vuono commanded a mech infantry division; he's the architect of combined arms integration; he talks of initiative and synchronization and AirLand Battle; he recognizes that this engineer piece is broken, and because of the fact it does not cause more manpower spaces, it's not a big bill payer requirement for the Army. What we badly need is concept approval so we can go work out the details of stationing the rest of it, which will have some minor bills, certainly minor in terms of force modernization paid for in other battlefield systems. So, I think he will. We still have some staff detractors here and about, but I emphasize once again, the leaders who understand maneuver all solidly support it. People with NTC experience know we've got to have it. So, the places where we have the pockets of resistance are typically those who don't understand maneuver or have problems with not having been at the NTC.

Q: So, the real problem would arise in staff or with, say, materiel development, new equipment, where the Army budget's going to have to be sliced differently for research and development and acquisition, and somebody's going to have to lose something?

A: Well, anytime you put something together like this, you always have the difficulty in boiling down the number of Vu-Graphs or slides for the high level of person you're briefing while still putting in enough slides so that you have the level of detail necessary for all the questions. We've analyzed E-Force from every dimension. Nevertheless, you'll find people out there who can't believe we don't need more people for this concept. Most of those people are staff level; they haven't served in a division or were in a division who once again believe that the only engineers you get are the ones in the organic divisional engineer battalion and who don't understand today's concept of Corps battalions coming in OPCON to support.

The fact is, even with this concept, we're keeping 50 percent of our engineers at Corps and we're still rolling one Corps battalion into the division. So, we've analyzed it to show there is no force structure gain, no more spaces gained, no officer gain. And, in fact, in terms of modernization, taking things that are already in the Army program, we require less modernized equipment for E-Force than we do for today's force because our today's concept that says we're going to have two Corps battalions that may at any time go fight in that division, you have to modernize all of them. We're only converting one of the Corps battalions and rolling it into the division, so we need less equipment. Key to that is the fact that we see everything in the divisional engineers forward of the brigade's rear boundary being totally mechanized like its infantry/armor counterparts. Behind the brigade's rear boundary we'll have all wheeled engineers. Consequently, in fact, we need less equipment and modernization.

There is one exception to that, and that is the Army's glaring weakness in countermine. We don't have a heavy force breacher. We still, after all these years, rely on bayonets and are getting the mine-clearing line charge. We badly need a breacher—that is, something with a full-width plow that can go out under fire and move the mines aside. We don't have that in the Army program. We would like to have that in E-Force. We right now have the combat

engineer vehicle [CEV] in our divisions, which satisfies most of the E-Force requirement for a vehicle, but it is not the counterobstacle vehicle or the full-width breacher we talk about. So, we need a breacher, but we could reorganize today's force with the modernization improvements in the stream—things like Volcano, the M9 ACE, the small emplacement excavator. They aren't here but are in production, are in the program and coming. We can get E-Force for the heavy force right now. The one thing we'd like to add to that is that heavy breacher. We can separate that out and say that is the Army's countermine problem; we need to solve that problem. That is the strategy by which we're attacking that issue.

Q: Do you see that countermine breacher as an attachment, like a plow, or a new vehicle altogether?

A: Well, our counterobstacle vehicle is a prototype right now. It has a full-width plow on it, but it is a full vehicle. The fact is that we've tried plows, and we're developing plows for our M-1 tank, but we're developing track-width plows. Track-width plows have great problems. First of all, they protect really only the tank they're on because of the width of the plow blade and the tracks and the difference in the tracks of following systems, like the Bradleys and M-113s. What happens is that you strip engineers and infantry in that forward maneuver element out of your team—only the tanks can proceed. So, although we're getting track-width rollers and track-width plows, they really are only a 25 percent solution. We need a full-width plow.

To do the full-width plow, you need a powerful machine, more powerful than the tank. Not only that, you put that blade up there with the M-1 and with the operator in the reclining position like he is, he can't see. You then have problems with tube depression. You have to turn the tube to the rear while you're plowing, even with the track width. So, what the Army really needs is a dedicated breaching vehicle that can do other things too. That's why our counterobstacle vehicle has a couple of digging arms, and it can dig with that blade as well, but it is a dedicated vehicle. We see that as a replacement for today's combat engineer vehicle, which has a blade but it is a blade that can't plow away mines. We need something that can go down to a full-width, 12-inch-deep mine removal.

Q: You'd take that whole lane out of there?

A: Take the whole lane out, that's right. That's what the counterobstacle vehicle does. We've got a prototype right now. We developed it with the Israelis. During the Gramm-Rudman cuts it was taken out of the Army program. So, to get that back in, we now have to find the bucks in some other program. That's a materiel modernization need and we think that need is there and we think that's the Army's "most broke" arena. We can do E-Force with the CEV and have a better organization than we have now; it'd be better yet if we could get the breachers.

Q: Your maneuver commanders generally support this kind of thing.

A: The maneuver commanders all support E-Force. I have not briefed a maneuver commander yet who didn't say, "Long overdue. Got to have it."

Q: Do you see, as the Bradleys get finished and the M-1s get in place, that there'll be more support for the procurement of these breachers?

A: Well, there's a lot of support there now. Whether you go out to the NTC with a M-113/M-60 force or a Bradley/M-1 force, the facts are that when you run into an obstacle, you stop. Certainly the speed of the Bradleys and the speed of the M-1s on that battlefield are wonderful, but if we're going to hit an obstacle every three or four kilometers—and we have mission area analyses that say that we will hit it even more often than that in some arenas—then we're just not going to realize the capability of those vehicles unless we solve that countermine problem and the ability to get through an obstacle.

Q: Our friends in the East are very good at mines, aren't they?

A: They're very good. We talk competitive strategies now in great detail, you know. The question would be, "What can we use as our strengths against their vulnerabilities?" We would say that we know they have vulnerabilities. If they intend to succeed through mechanized columns and mass and they want to push through our defense, then we are going to succeed against that by employing good defenses at the forward line of our own troops and in depth. In other words, we use our countermobility mines, obstacles, defenses to break up their formations, slow them down, to attack their second echelons by fire to slow them down, disrupt their formations, and then use maneuver, the highly mobile character of our weapons systems, to maneuver to achieve our advantage.

The Soviets, practicing competitive strategies, also look to us and say, "They, because of lesser forces in the face of our coming forward, are going to have to use maneuver. They preach it; they have an AirLand Battle doctrine that says they're going to use maneuver, so we are now going to organize for, equip for, and train for flank mining to protect our flanks so we can thwart their maneuver so we can keep going in our mass thrust." I think we can see that in how they've reacted to our AirLand Battle doctrine, which means we very badly need to solve our countermine initiative, which brings me to another thing.

That is, we've been talking countermine as a spinoff of E-Force, but in effect, the countermine problem was a separate issue that we started working on way back. The Defense Science Board in 1985 took on the task of looking at mine warfare and countermine as an issue.

Looking at the counterobstacle vehicle, General [Richard H.] Thompson, then commanding AMC, wrote General [William R.] Richardson, commanding TRADOC, and said, "I think we need an initiative to fix countermine." As part of that we established a general officer steering committee that I was given responsibility to chair to address, in General Richardson's words, "Our countermine deficiencies across the entire spectrum of conflict in all mission areas, all elements of performance"—that is, doctrine, organization, equipment, training—and to work with AMC. We set up that steering committee and began to work.

As we talk at this moment, we are hoping to get back from the printer the countermine initiative study. We had work groups and addressed the countermine problem and put

together an action plan that we will mail out and begin briefing around shortly. Part of that study is an addressable threat. I think one of the things we have to do is ensure that those in the United States Army and those who are concerned with our ability to fight integrated combined arms understand that threat to our ability to maneuver.

Q: Do you think that that is generally true, that they do understand the Soviet threat as far as its capabilities in the engineer area?

A: No, I don't think that is true. I think that part of the threat is not well understood. That's come out as we briefed during the countermining initiative. We had people on the general officer steering committee who represented the major TRADOC schools—Infantry, Armor, Artillery, Aviation were all there. General Tait, Armor School, came several times. We had the Combined Arms Center represented. We had the Army Staff and General [John W.] Woodmansee from Operations and Plans and General [Robert] Molinelli from Research, Development, and Acquisition. We had field units—General Andy Cooley from the 24th Division, light division folks, and the 5th Mech Division sent an assistant deputy chief. We had quite a number of people addressing the problem, and typically many were surprised with what threat was still there.

We find as the "threat" is briefed about the Army, it typically focuses on weapons systems that kill by direct fire and doesn't really address the threat in terms of our ability to maneuver against it. You won't find many statements or briefings on the threat that address their capabilities for mine warfare. So, as part of our countermining initiative, one of the things proposed by the general officers steering committee is that we get the Army to adopt and validate the threat in this arena. One of the chapters in the study we're putting together addresses threat capabilities, and we will seek to have that be incorporated as part of the threat, to improve overall understanding. So, the answer to your question is, "No, I don't think the Army understands the threat to maneuver, really understands our Soviet threat's capability of thwarting our ability to maneuver."

Q: That's really critical to operations on the battlefield, isn't it?

A: Absolutely.

Q: We're sitting there and don't understand what he can do.

A: Absolutely.

Q: You mentioned the M9 ACE earlier. Describe your involvement with it while you were commandant.

A: The M9 ACE was a major focus of my activity from the day I became commandant until the end of my tour and afterward. At the 1984 Engineers Functional Review, Major General Ellis pitched the need to continue the M9 program in spite of a challenge by the Operational Test and Evaluation Agency that it did not meet requirements for fielding. At a lunch showdown that day General Thurman directed a follow-on field evaluation of the M9 versus the D-7 dozer tractor-trailer system. That started weeks of hassling with the Operational Test and

Evaluation Agency and others to set up field evaluations that would be truly an evaluation of the value the M9 ACE brought to the combined arms team on the battlefield. The tests were to be conducted at Fort Hood under realistic battlefield conditions.

What I could not understand was the out-and-out adversarial approach the Operational Test and Evaluation Agency was taking. Colonel John Burlingame led that effort, and it was as if he asserted the M9 was no good and that he would ensure the tests came out that way. Many times in the field, he would make certain assumptions that would eliminate the D-7 tractor-trailer shortcomings. Major Tim Wynn, our Engineer School project officer, did an exceptional job of fighting off killer assumptions and ensuring realistic field relationships were maintained. I made five trips to Fort Hood myself during this period to ensure the M9 was not killed by evaluator zealots who seemed to think their measures of success would be to kill a system rather than to try to field a system to the battlefield troops that badly needed it.

There were many other challenges in the Pentagon with many armchair tacticians trying to kill the M9 ACE. Mr. [Walter W.] Hollis set out one challenge—that providing armor plate to protect the D-7 operator would suffice. A full laydown of the issues to him removed that obstacle. Colonel Ted Vander Els worked very effectively in all these skirmishes, pulling together all the facts.

Each budget cycle found another challenge from the Department of Defense, mostly out of Program Analysis and Evaluation. They were usually deterred by senior commanders' messages from the field and the Army's making M9 ACE funding a priority issue to defend.

One bizarre challenge came in 1986 when a Marine lieutenant colonel told the Department of Defense, Program Analysis and Evaluation, that the M9 was inferior to the British combat engineer tractor. We made a full direct comparison of the two and the M9 was superior across the board. I met with Major Generals [Ray M.] Franklin and [Carl E.] Mundy of the Marine Corps and they agreed not to stand in the way of our procurement. Oddly, the Marine lieutenant colonel, who was then retiring, later went to work for Royal Ordnance, the producer of the combat engineer tractor. Max Noah and I then briefed David Chu in the Department of Defense on the comparability issues and the M9 advantages, and the M9 stayed in the program again that year.

The evaluation at Fort Hood was a success, and the M9 ACE proved itself in a combined arms FTX at Fort Hood in May. Lieutenant Colonel Pete Sowa [commander, 17th Engineer Battalion, 2d Armored Division] did a superb job of supporting the tests and employing the M9 ACE in the FTX.

The final Army Systems Acquisition Review Council process was held in early September 1985. At the Army program review with Mr. [James R.] Ambrose, the Under Secretary of the Army, and attended by General Thurman and a host of others, the decision was made to go ahead with the M9—with fixes of some minor items that had been identified during the follow-on evaluation. I can tell you that was a happy day for a lot of engineers that had devoted countless hours to that effort.



General Kem (center, right) and Lieutenant General Elvin R. Heiberg III, Chief of Engineers, observed a test of the M9 ACE during the summer of 1985.

Q: Okay, to proceed then, want to talk about your role in evolving the engineers' role in AirLand Battle during your time here as a commandant, how that's evolved?

A: Well, I think we have really defined the engineers' role on the AirLand battlefield in the last three years. The process had started. People were working on manuals; people were doing some of the doctrinal thinking. In many cases I think we were wedded too much to looking at things, again, from engineer eyes.

Part of the problem with engineers and how we look at things is that we bring up our brood from many different directions. We've got light engineers and heavy engineers, but so does infantry. We have divisional engineers and nondivisional Corps engineers, and infantry doesn't really do that. I mean, they may have a separate infantry brigade that might find a rear area mission at Corps, but basically they're all doing the same general thing, and all the tankers are found forward. We also have combat heavy engineers. If we put people out in all those arenas and they do things in those different environments, you can get different engineer mindsets as to what engineers "do" and how they "do it."

One engineer may think the world is construction and building ranges at Grafenwöhr during peacetime. One may be in a place where he or she is in a combat heavy engineer battalion on a divisional post and you run out and build antitank ditches with tractor-scrapers and think

that's the way you're going to do it in wartime. We need to try to put all those things into the context of how it's going to be on the battlefield, and you're not just trying to make do with the combination you're given. Now, we are always going to make do with the combination we're given, even on the battlefield. If we can define the battlefield and define the force the way we want it, we're not going to put that combat heavy battalion, like at Fort Carson, with the 4th Division and let that be the expected combat support relationship. That combat heavy battalion in time of war goes somewhere else and is not attached to the 4th Division. There's a Corps battalion that's going to be supporting that division. The engineer may go to Europe and may be in a Corps battalion there, and because of the general defense plan, maybe understand a little bit better combat relationships.

The point I was getting to was that when you get a bunch of engineers with six or seven years of experience in maybe two assignments, you really can have different views of battlefield missions and what engineers do. Even within the division experience category, one might have light division experience and another might have heavy division experience, which causes different views. So, from the terms of what we're talking about—the heavy NATO battlefield and the division and the way guys like General Saint, commanding general of III Corps, thinks today with his shoot, move, and communicate, let's move out, shock action, audacity, move, synchronize combat power—you don't have time to sit back and do an engineer estimate. I mean, you're talking about frag orders, action, rapid change, violence—so we have to put things in that kind of context. So, part of our problem, then, is this inability of engineers to focus often until very late in a career, once they have had a bunch of those experiences.

As I mentioned early on, I've had those experiences—have been in armored division, very formative years; been in airborne division; been in a Corps engineer battalion; been with a combat heavy engineer battalion. So, my perspective is a lot broader, but it takes a lot of years to get that breadth of perspective. The people we have working down teaching and doing things at captain and major level do not have that breadth. So, our problem is that we have to look beyond the boundary of our own experience and put things in the terms of what's being described by the Combined Arms Center and by thinkers like Vuono, RisCassi, Saint, Burba, and Franks on how we're going to operate on that battlefield. If people don't have that ability to think that way, or are chained to an old doctrinal manual just to be modified and make do, then it's difficult.

So, back to your original question, one of the things we've tried to do is bring our engineer thinking to their maneuver level. Back to a point I made earlier, my focus here has been warfighting in terms of the maneuver commander on his battlefield, being responsive to him, for his needs that he defines. Now, I can help him define those needs, but I don't say, "This is what I'm going to give you and that's all you get." I say, "What do you need, and let's figure out what we can do to make your battle team more effective."

If we then unchain ourselves from "all we've got is this, and this is the way we've always done it" and cross that boundary—I call it "looking beyond the discontinuity," the "discontinuity" being our thinking versus theirs—get into their thinking, put it in that framework, and then describing those terms, then we can do it. So, I think we really have

defined here at the Engineer School, in the past couple of years, the real engineers' role on the AirLand battlefield, and we've done it in a couple of documents that are just about to come out. FM 90-13 is a new field manual on counterobstacle and river crossing operations that definitely crosses that boundary. FM 90-13-1, which is coming out tomorrow, is going to redefine counterobstacle operations at the maneuver task force in terms of combined arms. It's going to have an interactive infantry-armor-engineer forward maneuver element with all the rest of the combined arms included—air defense, aviation, all of them. It's going to describe how we get through an obstacle in terms of the maneuver commander, that is, in stride with minimum loss of momentum, and provide the doctrinal basis for that. I think that is what has been lacking: thinking and putting it in maneuver kind of terms. I think we've done that.

I think we've done it also by obtaining approval throughout the Army of taking to the NTC a full brigade engineer slice. When NTC first started they said, "One engineer company is what a maneuver brigade gets normally and that's what it gets at the NTC and that's all in that division." That's not what doctrine says is going to fight with that brigade. By doctrine you're going to give that brigade assets that will probably amount to about one company per task force. They go out to the NTC with two maneuver task forces in a brigade, so they now have approval to take out two engineer companies. We also have approval for a permanent engineer company in the opposing force at the NTC, which is now forming.

Our focus at the NTC is making that training environment very realistic, to simulate as little as possible to make it fully realistic. I think, in fact, we have really not fully defined the engineer in the combined arms teams in the AirLand Battle. I think we've put a higher resolution in that definition, and that resolution has been pitched toward putting it in terms of the maneuver commander on the AirLand Battlefield and thus it's become a much better definition.

Q: Is this going to require some retooling of engineer career patterns to get the kind of experience that you're talking about into these people so that we remove that segmented experience?

A: E-Force does that too. Our problem in the engineers, besides our thinking problem, is that we've never addressed this big sore that prevents us from being truly effective, that sore being that we have an archaic organizational design that was found lacking in World War II and has never been fixed and is totally inadequate today—that being this thing that causes us to say that we're going to move battalions in to join the division as needed. That "flexibility" from Corps is an "apparent" flexibility only; it's not real in terms of today's battlefield. It was not real in terms of the World War II battlefield, but people have said it was for years.

Q: Except engineers.

A: Except engineers. Now with the NTC experience, maneuver people really recognize that. What was your question again?

Q: Career patterns and how they'll change?

A: E-Force fixes a lot of things. It's going to put the right kind of stuff in the division. It's going to allow us to write doctrine now with the kind of association to really follow METT-T [mission, enemy, terrain, troops and time available] without all the "ad hocricies" that are required under current doctrine to make it work. We're going to solve the maintenance and the supply problems that have always plagued us. We're going to solve the communications problems because no longer are you going to have 70 kilometers between engineer company and battalion; we're going to shorten those distances. We need less communications equipment. All of that gets solved.

In addition, back to your question, we're going to have more engineers, now, who grow up in divisions because we'll find that much of our active force will be in divisions or combat heavy battalions and most of the Corps battalions are going to be in the reserve components, which, I say, is exactly the way it should be. Now the reserve components have four heavy divisions, too; they'll still have engineers. The reserve component engineers, Corps battalions, with their limited training time do not have to try to be up close and personal with heavy divisions because, in fact, they will seldom be asked to go up in the forward brigade area. They don't have time to really learn close combat support of the heavy divisions, as we learned last year in our REFORGER training exercise.

Reserve engineer units will be able to focus their mission-essential task list back of the brigade's rear boundary. Those folks in the E-Force divisional battalions can focus on the forward area for their training because, then, most of the Corps battalions are reserve. More of the active force will be in divisions or the combat heavy battalions. Now, we'll still have some Corps battalions and we'll still have the light engineer battalions, but we'll have double the number of people going through divisions with E-Force than we had before.

We're also going to have a colonel in that division commanding the division engineer element. General Vuono said he badly wants that in the division, the colonel. We're going to have three engineer battalion commanders, lieutenant colonels, commanding in that division. So, we're going to have more people with the mindset that I think is so valuable—that is, how you think, how you operate on the move in that AirLand Battle situation. I think E-Force itself corrects the problem, and so I don't think it will change career patterns. I think the guy will still have about the same amount of time with troops and time in an engineer district or a DEH or on a staff or at school. However, because of E-Force, more of that time with troops will be in a division, more than it was before. Since we're doing that, then we can make sure more of the combat heavy folks have an opportunity to be in a division and vice versa.

Q: Now, every time you talk about the regiment, I always come back to the old engineers I've interviewed and asked them what happened in 1940, 1941, when General Leslie McNair decided that they didn't need that engineer regiment in there, they just needed the battalion. And, of course, their answer to it was, "Flexibility, hell! There was no flexibility. You still had all this stuff attached to you anyway. You just didn't command it really." They universally said it was to prevent there being an engineer colonel in that division who could become the brigade commander. It goes back to a jealousy factor. Every one of them said the same thing, "It never worked, could never work, and was recommended against."

A: Well, I don't think engineer colonels today are going to become maneuver brigade commanders.

Q: Well, not anymore.

A: There are going to be a few of them become Chiefs of Staff, and that's good and we've had a few as Chiefs of Staff. We have an engineer Chief of Staff of an airborne Corps now. General Reno, who's replacing me here, was G-3 of the 1st Infantry Division and an assistant deputy chief. There'll be more of that. General Vuono, you see, is one guy who says, "I really want that colonel in the division," because the guys he's relied on for understanding terrain have been his engineers. The trouble is, if the engineer of today is out executing with his battalion, he's not up at division doing that for his division commander. So, E-Force really solves a lot of problems.

You find a few staffers opposed, most at the major or maybe even the lieutenant colonel level, people who don't understand who offer that, but guys who've been there say, "I want the colonel in the division."

Q: Well, you know, you think of the engineer officers that came up in World War II and became division commanders. All of them came out of that system you're talking about basically, the regimental system where they served in an engineer regiment serving in a division. I mean, they knew the inner workings of a division very much more than they probably do now. I'm just thinking that maybe there is a new day, like you say.

Is there anything more you want to discuss on that particular subject, AirLand Battle, anything key that you think that we didn't cover? It's a large subject so it's very difficult to do it in a short time.

A: Well, I think I've really discussed it.

Q: Okay. Could you describe your personal philosophy of leadership, command, and management?

A: Well, yes, I will. I come from the school that says people are basically well motivated. I think the Army does a pretty good job of growing them up through the system at whatever level they are—I'm talking about all the grades—to be ready for that particular time for the requirements of their position. So, I think that it's my responsibility, as commander or commandant, to set the vision of what needs to be, to build a framework for getting there, to allow the subordinate elements of the organizational structure to move to accomplish that. I believe I recognize that people make mistakes on the way, and we don't have a perfect organization, or perfect people, especially in an Army where we're always preparing for something that we hope never to do—that is, fight—and thus we're putting people continually into a growth position to grow to the next level of expertise. Consequently, I believe in establishing an environment where a person can charge on with his own initiatives and not be afraid of being dashed by me and has the capabilities to grow and develop.

I believe in the worth of people and their desire to do the right thing and their ability to do it. I think we can get a lot more for the whole if we let all the individual initiatives drive on. So, I guess philosophically I've always felt that if I can get the right people in the job and give them a charge and let them drive forward and try to bend them in directions to fit the long term, I'm a lot better off. We obtain more, on the whole, than if we sit on people and try to very specifically prescribe what they should do and the product they are to produce.

So, philosophically, I guess, I'd probably put it all together as setting up an organization, put a vision out there that we ought to achieve, and then point people in that direction and let their individual drive and initiative work toward that, ensuring that we establish an environment where people feel the freedom to strive and the freedom to contribute.

I guess what I've done here at Fort Belvoir has been to try to work to ensure that the many different parts of the Engineer School doing it that way stay together. In other words, if we're developing a new system, are the trainers staying up with that development so they will train and set up the training processes to train the people, maybe at Fort Leonard Wood or here, to use that piece of equipment? Are the doctrine people over in the Department of Combined Arms working the doctrine so it's all coming along in tandem? People driving on don't necessarily look outward to the broader scope other than their own to ensure that it is all proceeding for the better.

Second, I guess, as a style thing I feel that I do need some checks on how we're moving. Are we pulling along toward solutions? Typically, I do that not on a one-on-one with somebody, but trying to have them come in and brief an in-process review of where we are on something. That accomplishes two things: I know where we are and can add guidance or give what I know people feel that I owe them—that is, perspective and guidance. At the same time, others are hearing it, so we begin to ensure the perspective is carried throughout the organization.

Q: Do you think engineer command is a little different than, say, infantry or armored?

A: I guess I have to ask what you're describing by engineer command? Do you mean command of an engineer company, battalion, or you mean command of the Engineer Center at Fort Belvoir?

Q: No, more of the line type of command. Is there a different problem because of the customer you serve?

A: In its essence, there is no difference in commanding an engineer element or an infantry element if you take it on a comparable basis, platoon for platoon, company for company. The problem that comes up, and the thing that makes the job of that level commander more difficult for the engineer in some cases, is the additional part of being the task force engineer or the brigade engineer or the division engineer. In other words, there's a second half of the job.

I'm really describing now something that's really part of the divisional engineer battalion. The fact is that if you only accept the divisional battalion as contributing to the division, then the platoon supports a task force and the platoon leader is so overextended with his duties with serving that task force S-3 and the commander that he has difficulty in commanding his platoon. His infantry counterpart is only commanding his platoon, working for a company commander who's got just three or four of these companies working in a tight-knit element. The engineer platoon is working throughout the task force, a much broader area, and yet he has that other responsibility to the staff—in the command element of the maneuver task force. So, it's that extra addition that makes the engineer platoon leader's task more difficult. That same thing happens at battalion level when that engineer commander has to operate his companies throughout the division area and has division engineer staff responsibilities. That engineer battalion commander also has the biggest battalion in the division, with all the headaches of maintenance and systems.



General Kem (left) with Brigadier Roland Zedler, Commandant of the West German engineers, during a visit to a German engineer river crossing in 1986.

So, I think the engineer battalion commander does have a bigger command problem than his counterparts. I think the company commander and the platoon leader have a battlefield operations problem more difficult than their counterparts, but it may not be a command problem. That is what I was asking when I first started because of the word “command.” If command comes with responsibilities as the task force engineer or the brigade engineer, then

the engineer commander has bigger battlefield problems than his peers that he has to wrestle with.

Q: That requires different training?

A: It requires us to concentrate, like in our basic course, on a module that trains a maneuver task force engineer. Now E-Force solves those things because it puts people at the right commensurate level. The maneuver task force will be supported by an engineer company, so the task force commander will look down to infantry, armor, artillery, and engineer company commanders as his next command element. So, now we have raised the engineer working at that level from platoon leader to company commander. We would now say that his problems and his requirements are commensurate with his maneuver brother. The brigade commander looks down to a lieutenant colonel battalion commander and staff of infantry, armor, artillery, and logistics but an engineer captain, company commander, divisional, and maybe a couple of Corps type engineer company commanders with no battalion commander or staff. In the future, E-Force will be commensurate as well, with a lieutenant colonel engineer battalion with staff—the same as armor, infantry, artillery. So, our current archaic structure affects command capability as well. E-Force then becomes the solution to that problem. We'll now have a commensurate level at all battlefield command levels.

Q: It's been a long time coming to solve that problem.

A: That's why we say E-Force is not magic. It solves "ad hocry" and solves a whole lot of battlefield problems; what it does is bring together organization, materiel, and command and control. The major changes are really command and control when you look at it because you've taken the over 1,700 engineer folks in the current divisional engineer battalion and Corps engineer battalion and reorganized them into this division engineer regimental structure, and with fewer people. They're now in groups that can be command and controlled to have the right piece of materiel or the right organization to be responsive to the maneuver commander at the right place on the battlefield.

Q: How would you contrast this command here at Fort Belvoir with your most recent command at Ohio River Division?

A: Well, before I contrast it, let me talk about some things that are probably the same, and that is high-level responsibility, a requirement to make things happen—I'm speaking about my personal position in that command—the ability to work with a lot of good people. What I think was similar was a charge to make things happen from my bosses in either case and an arena where, in either case, I could let the status quo continue and not succeed from the standpoint of the engineer force here or programs in the Ohio River Division there, or things could be improved and get better.

In contrast, I would say the pace and scope of TRADOC is much faster. The fact is that geographically I have total force responsibilities throughout the world as opposed to one very large river basin, which was very big in those days. My travel requirements as commandant take me to Korea, to Germany, to Israel, and to Honduras. I work in an arena of a much more

centralized major Army command. TRADOC, with its subordinate integrating centers, does a lot of things in integration and is much more centrally controlled, although they want me to make it happen in my particular arena.

USACE is much more decentralized. I probably had much more individual authority as a division engineer than I do as a commandant, although I can write doctrine that is Army doctrine as a commandant. I'm not sure I could do that in USACE. I have to sell programs to a lot more layers here in TRADOC than I did in USACE. I have my hands in many more different functional arenas here than I did in USACE. That is, doctrine is one arena, force structure is one arena, materiel modernization is a very difficult arena involving the whole Army Materiel Command and the Army Staff in the Pentagon. Then training is a whole different arena, from officer development here at Fort Belvoir to soldier development at Fort Leonard Wood and unit training everywhere. Personnel policies involve all the engineer force worldwide. So, I have many more different actors in all of those functional arenas than I did in my last position as the Ohio River Division Engineer. I guess that's the basic contrast.

Again I would just say, though, that both have been very challenging and both very rewarding from the standpoint of satisfaction in knowing that the responsibilities there in the Ohio River Division and here at the Engineer School have each been an opportunity to create a vision of what should be to make things better and an opportunity to have people and the wherewithal and the resources to make that happen.

Q: Both great challenges. There seems to be a much greater challenge here and a much more significant outcome.

A: I think so, from the standpoint of "proponency" of the total engineer force. You're talking about national security and the engineer force part of the overall team—I think that's right. We're talking about professional development of the entire future of the engineer officer Corps plus the noncommissioned officer Corps. So, I think that's right. I'm sure you'd have difficulty explaining that to somebody like Senator Byrd when the Tug Fork project wasn't proceeding on schedule.

Q: Just going to a different arena of combat, right? [Laughter]

A: Well, at least in some respects.

Q: Leave that behind.

A: As I said from the outset, I really didn't understand initially the full scope of the responsibilities here at the Engineer School. It's much broader and much more encompassing of the total than I ever expected. I think many people don't understand that because we have a serving Chief of Engineers. Many people think he has all these responsibilities when, in fact, for a lot of these things, the arena is the TRADOC arena. We play here; he can't affect them like I can. He can support things when they get to the Department of the Army or he can dash them when they get to the Department of the Army. He can influence them, but a lot

of things I have to start here or he can't influence there. So, it was certainly something, as I mentioned, that I didn't fully understand at the start. Even now we have people writing the Chief letters asking him to get certain things done or complaining that something hasn't been done quickly enough when it should be more properly directed here because I'm the one that has that responsibility.

Q: I realize this is a touchy question, but how is it being the commandant of the Engineer School, sitting 20 miles south of a three-star Chief of Engineers? That presents problems for you, or him?

A: Well, you'd have to ask him about problems for him, but I would guess his answer is probably close to mine. I don't think it's been any problem for me at all. General Richardson's first charge to me was, "You've got the responsibility to make all this happen for the engineer force. You have to work out a relationship with the Chief of Engineers." That was pretty clear to me. I'd been General Heiberg's deputy twice; I understood what I needed to do to work with him. My own feeling was, "If it's right, we'll all buy it. If it's wrong, then what am I trying to do to push it forward if it's not going to be acceptable to him?" I mean, logic should prevail, and we should be doing the logical thing. It ought to be able to be accepted by everybody.

Way back, when proponentcy was thought out and when people were talking about, early on, the Chief of Engineers' role versus the commandants', I was in the ACE's office. I guess I said at the time that I supposed the success of that arrangement would be partly due to the personalities involved, but it should work because it was logical. In the past, personalities have been a factor in some cases.

I don't think it's been a factor at all in this case, and I think General Heiberg has been most supportive. He has sent down questions every now and then that he'd like to have answers for so that he's well informed in his arena. He's suggested things that we ought to look at and we've looked at them. He's had a lot of good ideas; that's been an influence here. By the same token, when we've gone up there to seek his support, he's been very supportive.

The key to all that is recognizing the different arenas we play in, and TRADOC and AMC do an awful lot at our level before it ever gets to the Department of the Army. It's very difficult for the Chief of Engineers to play down at our level. When it gets up to the Department of the Army, he has the opportunity to play in the arena and to support the programs or not support them depending on whether he's there at the meetings or not there at the meetings or gets involved. That's where he's got the ACE to take care of that.

Commandants do also play in the Department of the Army arena. That is, we're asked to take our systems forward. I was present for the decision brief of the Under Secretary and the Vice Chief of Staff for the M9 ACE. It's not that I don't go to the Department of the Army, but I'm not there working on a day-by-day basis, and the Chief should be. So, long as we sort out the two arenas then I think it should be a supportive relationship.

Q: It's a relationship you have to handle that none of your other commandants have to worry about, isn't it? Presents you a little more of a challenge in that respect?

A: Well, yes, it's a relationship we have to handle. Whether it's a challenge or not depends. It almost implies that if you've got to work hard at it, then it's a challenge, and I haven't had to work hard at it. I mean, it's been natural as far as my feeling goes. I worked as the Deputy ACE before, and I worked directly for him in two positions, and so I think I understood the different relationships. Every now and then I find somebody who doesn't, so they want us to do certain things. Usually, after a little discussion, we can figure out that that's in the other arena and they ought to take care of it or it's down here. Or they get something in that we should work on and they'll feed it to us. We get something in that is really above our level, we'll pass it back up.

There's maybe a little more discussion than other people have, but it's not been a challenge because it hasn't been difficult. We have things like the Engineer Center team meeting, and we typically invite General Bob Dacey's people out here for our meetings like we do our operations, force integration, and our people from Research, Development, and Acquisition.

Q: Now, what would you say was the greatest challenge you faced in this position?

A: Well, if I define that engineers were broken, then my greatest challenge was to try to get an Army understanding of that and develop a game plan to fix it and put that game plan on the path to getting fixed and hopefully accomplish that fix. Going with that, then, becomes the ability to marshal the forces and focus and keep doing the other things that are daily important that you can't drop to accomplish the major thrust.

Q: Did you make any major changes in the organizational structure, and why?

A: Yes, we made some changes. First of all, though, TRADOC had decided that there would be an organizational change to accommodate the fact that we have doctrinal responsibilities as well as teaching responsibilities. A thing they call School Model '83 had been approved when I came in. What I found out was that we had not implemented School Model '83 here, so during my early months I made the decision to implement it. That moved people out of the Training and Doctrine Development Directorate into the teaching departments so that we would be teaching and writing with the subject matter expert at the point of teaching instead of writing in the Directorate of Training and Doctrine Development and teaching in the Department of Combined Arms or the Department of Engineering. The decision had been made that that was the conceptual framework. We made an evaluation while I was here, decided we weren't in that mode, and made that mode change. So, that happened.

The other things have not been as dramatic; that is, we've done some fine tuning. I established an organization called the Engineer Force Modernization Office, and brought in Lieutenant Colonel Tom Farewell to head that to provide some ability to pull across all functional areas. I think I mentioned earlier the fact that different organizations could be pulling in one direction and not knowing what others were doing. I asked Tom Farewell to come in and provide that perspective and vision across all of our functional elements so we

could have an understanding and perspective in those elements of what all was going on. That allowed me, then, to have greater networking within the organization and out as we tried to focus on how we reach that vision of the future—that is, an effective engineer force. That office has been functioning for a year now, a very small, austere organization with Lieutenant Colonel Farewell, a major, a captain, and a clerk. It's provided a great input and synergism here.

Q: It's amazing. Basically, just implementation of School Model '83 and then this one office are your major organizational changes?

A: Well, of course, one thing we have to look at is down the line—the move of the school to Fort Leonard Wood. So, the things we've tried to do organizationally have been fine tuned here but pointed toward that. Part of the School Model '83 effort was that I reorganized the school secretary, which has gone away. There's some fine tuning along with that. We have focused toward Fort Leonard Wood and spent a lot of planning on that. As part of that there are other organizational things that have been approved which lead toward the move.

One of those is that we're doing away with atomic demolition munition instruction. We've pushed and worked throughout the Army to get us out of that mission area. Second, we are passing to the Ordnance School responsibility for training generator and environmental equipment repair. As part of that I have started an initiative, and it's now been approved, to pass total proponentcy for generators smaller than 500 kW—that is, tactical generators—and environmental control equipment to the Ordnance School. In the past we've had one whole department here teaching ordnance kind of folks. In addition, we've had combat development responsibility for those generators.

In my mind, that has been a thing that's diverted us from primary attention on our combat engineer missions. That's why I asked that with the school move, and the fact that the department was going to stay here anyway—we conduct advanced individual training for 7,000 students a year for ordnance—that it be transferred to the Ordnance School. It was never going to go to Fort Leonard Wood anyway. We were going to retain responsibility for that instruction here with the Engineer School at Fort Leonard Wood. It would be a diversion. So, we got that responsibility transferred to Ordnance and got them to take the combat development responsibility too. That's effective the 1st of October 1988. That's been a major organizational change based on the future.

We've established a noncommissioned officer academy here as a prelude to moving it to Fort Leonard Wood to combine with their noncommissioned officer academy. We've also sold the idea of creating, at Fort Leonard Wood, a battalion to run the basic officers course so that the battalion commander and the company commanders become very involved in the training as opposed to now where we have a basic officer detachment that does the training under the Department of Combined Arms and we have a staff and faculty battalion that has them for command, administration, and discipline. That battalion commander's got a lot of other things to be involved with and a company commander who is very involved with them.

When we get out to Fort Leonard Wood, we'll have all that as a total entity so that the basic officer students will be operating in leadership positions in their platoons—platoon leader, squad leader—but that platoon will be part of a company and part of a battalion. We'll have the whole hierarchal perspective there, and that platoon leader won't now just be a platoon leader in a platoon working for part of a company. He'll be a platoon leader working for a company commander who's totally involved in his training and one of the trainers working for a battalion commander, who's totally involved in that training. We call that the "unit context," and that's a major organizational change as well.

Q: Want to continue with your discussion on looking back at the whole issue of the relocation of the school to Fort Leonard Wood and go into that?

A: Well, I arrived in the job, and the decision to relocate had basically been made. I forget when it was announced, but I think that in February 1985 it was officially announced. So, I didn't get involved at all in the decision about whether to go or not to go, but I immediately got caught up in a swell of people that said it was the wrong decision, a terrible thing, and so forth. I don't feel that way. I think that from the standpoint of training and keeping the engineer part of the force effective, that Fort Belvoir's just too tight. It's certainly a wonderful place and it's got a lot of tradition, but the fact is it's just going to be better when we get officer training and soldier and noncommissioned officer training all out at the same place so we all start from the same focal point. We're going to be able to do a lot of things out there we can't do right now here.

From my standpoint, we're also going to get rid of a lot of distractions that I have right now. Being an installation commander in the National Capital Region has a lot of other things that go along with it that cause you to sometimes wonder how you can maintain your focus on a mission like keeping the engineer force prepared for war. For example, the Secretary of the Army puts out a new smoking policy and all of the national TV networks with Washington offices come to the closest post wanting to interview soldiers about what they think about the secretary's policy.

We have a hospital here that serves a very large population that comes in for its share of public visibility as we do things here that others do. We have 39 different activities on post, each with its own individual things that require some effort. Yet, of all the major TRADOC posts, I don't have a brigadier general assistant commandant.

The Secretary of the Army hosted a dinner for all of his civilian aides when they came to town, some 250, at our officers club last Monday night. So, the post resources are used for a lot of other different kinds of functions not commensurate with the resources allocated to all TRADOC posts for the kind of jobs they do. Not only do we do them, but there are certainly things that cause me to commit time to.

All in all, what I was starting to talk about really was the fact that I think that the move's a good one and it'll have a lot of benefits, although it'll continue to take some emotional toll among many folks who don't want to go. At the same time, our real challenge is to maintain continuity and not to lose institutionally as we cross that transition period. That's always a

problem. Typically, people have found that, in moves of corporations and organizations, only some 15 percent of the work force will move, and our estimate here is less than that, 10 percent. So, that is a real potential institutional problem.



General Kem (right) greeted Lieutenant Colonel Garth Hewish (center), British Liaison Officer, and his wife Sheila when he was Commander of the Engineer School.

So, as a consequence, once the decision was made, I have tried to put our planning in focus and to ensure we do it the best possible way. We've done that by trying to ensure with Fort Leonard Wood that we'd think of all the things that need to be taken care of. We have redesigned our programs of instruction for two of our courses, the advanced noncommissioned officers course and the basic officers course, to take advantage of the fact that we'll be able to, so to speak, fall out the academic classroom door into the field as opposed to here doing so many weeks of classroom and then going down to A.P. Hill for field training.

We've tried to address the meaning of different kinds of operations and what we want in the new school building. We've incorporated some things that will make it a state of the art

facility for the Army. In June of 1985, I traveled to the French and British engineer schools and brought back some ideas that we're going to incorporate there. It was a very fortuitous visit. I found the French had built a tactical training center, a large room with bleachers and screens that you could project movies or slides or TV.

The significant part of that room was the fact that it had a lot of individual rooms, 14 of them, set up to look out to these scenes so you could put two students in each of the rooms. Each one of them would have only their map board and their radio telephone, and then they'd be able to work problems that way, real terrain problems. There was a central control room by which instructors could speak to each student module individually so they had independent work. It was an idea that I thought had great merit because one of the things we'll not have at Fort Leonard Wood, just as we don't have it here, is the rest of the combined arms team. We can do engineer things, but we need to replicate the rest. I thought by coming up with a facility, which we first called the Tactical Training Center but now call the Battalion Combat Training Center, was something that we ought to build that would follow that French concept.

I should add that after leaving the French school I went to Chatham, England, to visit the British school. They had in the center of their tactical training room a model on a terrain board, and they had built plywood armored personnel carrier modules. They would put their students in the armored personnel carrier where they would look out at the training board to do their work. We combined the two into a facility for Fort Leonard Wood that had the individual cells in which you could isolate two students at a time, hook them up by radio telephone so they could work and be talked to by an instructor or other students in a task force tactical operations center.

At the same time, we incorporated the terrain board into the Battlefield Command Training Center because we're talking about commanders, platoon leaders, company commanders, battalion commanders, group brigade commanders, and we want to focus on AirLand battlefield training there.

The idea is that we can bring folks in there, put up something on the training board, still project real scenes up on the screen if we want, and ask them to work a problem, work independently from their map board, independent solutions, call in reports, do different kind of things. We think that this will be valuable in many different respects. We also will put some elevated benches around the room, and all those benches will be wired for computers. That will tie in another initiative that I haven't really talked about yet, and that's the Engineer Command and Control System, which will be a battlefield system. We'll be able to bring that into the classroom, too, and they'll be able to work that from the other benches throughout the facility.

Another thing that General Vuono, while at the Combined Arms Center, started was that he wanted everybody to have a typical command post within their facility. We will fix one of our rooms up as a typical engineer battalion or brigade command post. People in the tactical operations center don't see the battlefield, so we'll not give them access and visibility out to the terrain board. It will be located so that people out seeing the training board—platoon

leaders and company commanders—can report back to the tactical operations center and replicate their battlefield roles.

What we see is the need to provide a combined arms team experience and context. We could, for example, be going to take the basic course out to see and practice the breaching operation—the close combat, heavy, in-stride breach as in FM 90–13–1, which goes to print tomorrow. We can teach that, the concept of the combined arms breaching operation, in the classroom. Then we can take them out into the field and have them actually go through the breaching operation from armored personnel carrier into the complex obstacle.

One thing we won't be able to provide at Leonard Wood is the perspective of what's happening at the larger element, the task force or the brigade. We think we could put on the terrain board a major layout with boundaries and everything else so the brigade is doing this part of a larger operation—AirLand Battle, deep attack, controlling the forward line, whatever. We could put the larger context of the maneuver element on the terrain board, understand it at all tactical levels, and then take one part of it, the combined arms breach, having made sure they understand the broader perspective, and send them out to execute it in the field.

That's what we see when we talk about Fort Leonard Wood. When I talk about it being the Army prototype training facility for combined arms, we're going to have a school that's wired for all of our automation and any other kind of way we want to present instruction, plus this Battlefield Command Training Center, plus all of the good terrain at Fort Leonard Wood to practice "hands on" in the field. That's what's going to be the great benefit there.

Q: How are the plans coming now?

A: Well, there are two things involved with the plans. One is building the facility, and that's one we have participated in, and we've contributed to very closely with Fort Leonard Wood. The Kansas City District has been doing things; we're way behind. Initial costs came in above projections and Kansas City District and Missouri River Division have been wrestling with that with Fort Leonard Wood, trying to get a facility under construction. We badly need to get that building under way. We were going to have a groundbreaking in March; already now, we're well into the summer construction period. That's part of our planning, the design and construction of the building.

In the meantime we have done our other planning, that is, to get into the budgets, into the programming, and talk about what moves where. We've taken that planning as of 31 March [1987] down to the "each"—each position, civilian, soldier, officer, in each element—and we've determined when we can phase in there and when we should not. We've worked with Fort Leonard Wood preparing the requirements to get some money from TRADOC to fix up the Noncommissioned Officers Academy so we can make an early move of the advanced noncommissioned officers course. That'll happen in April 1988, as currently scheduled. We've worked to move our 12 Charlie—that's the bridge specialist—basic noncommissioned officer course to Fort Leonard Wood early.

That'll be this summer. We've got detailed planning on how to phase our course so that we'll have some overlap in the advanced course. That is, we'll be finishing up a couple of advanced courses here at Belvoir while starting the successor ones out at Fort Leonard Wood. At the same time, we won't have to do that for the basic course. We'll be able to finish one and start one out there. We've taken the staff and faculty planning for each of those down to the eches—all of that based on an assumption of when we'll be able to get in at Fort Leonard Wood. That assumption, of course, still floats as long as we haven't started and got a fix on a beneficial occupancy date from the Kansas City District.

So, we've got our planning down to the details and we're comfortable with it. It's just that we'd like to have that assumption turn into a more fixed date. We know it's slipping as of this moment from 1 March 1989 to what we're told is in the order of October, but we'll know that better when we finally have a date. In the meantime, many of our civilians are already leaving the work force here. That's causing us some difficulty because, very naturally, they want to find security and a secure position if they have already made the determination they're not going to move. In our crucial combat developments arena, people are in an area where their type of jobs are plentiful, the Washington area, and they are moving when they get the opportunity. We're already losing some expertise. We had detailed planning to try to start building up our expertise and capability out there and we moved positions to Fort Leonard Wood. We've hired interns there to start building up. Hopefully we didn't want to take too great a dip in institutional knowledge and continuity during the time we're making the move.

Q: That's risky business, though, isn't it, all the uncertainty of when you're going to go because you can't move that fast, can you?

A: Well, we were very comfortable up until the first time the bids came in "over" because we felt everybody was plowing on and we were being assured that things looked pretty good and not to worry. So, we did our planning and felt a little under the gun to make sure we tied up all the loose ends. Having tied them up, it's been a little frustrating now to see them unraveling and the execution time extending. We had programmed a shift of the commanding general, that is my successor, General Reno, out about 1 October 1988, the idea being that he would be here for a year to understand how the school worked and know all of the environments and the functional arenas that I described. Then he would be able to move early and pull it to him, putting all that information to work as he made it happen at Fort Leonard Wood.

We had planned, as part of our transition, to move those things that are associated with engineer proponency with him—that is, part of the Combat Developments, part of Training and Doctrine, the Engineer Proponency Office, the TRADOC system manager, the Engineer Force Modernization Office, those things that are involved in the day-by-day proponency arena as opposed to teaching the advanced course and teaching the basic course.

Thus, we would have split Combat Developments. The computer would still be here because the building's not ready there to put the computer in, so people associated with the computer in Combat Developments—that is, the force designers, the TO&E designers—would stay

here. Materiel guys would move out there. That split causes inefficiencies. The idea was that he could leave an assistant commandant here; he'd have a deputy assistant commandant there, and that would make that work. Now that period that we planned for is stretching out because the difference between 1 October and 1 March is only six months. We could see how we could live under that kind of split office for that period. If that extends on through October or later, because we still don't have that fixed date, then we have to go back and challenge the assumptions that led to the terms of our detailed planning, and we will have to adjust that.

What we have not been able to do is make that movement. We've played a few what-if drills; we know what the considerations are, but until we can fix that date we're reluctant to change our plan and fix onto it. Otherwise we may be fixing and refixing the plan. So, yes, we think we're pretty firm, but we'd really like to firm up the rest of it.

Q: Somebody else, in this place, is calling the shot that affects everything you've got planned?

A: That's right. Kansas City District's construction.

Q: What happens if Congress is not going to allow reprogramming? I'm just giving you a what-if. What do you do then?

A: Well, my view is that we don't move. We need a school facility at Fort Leonard Wood.

Q: Would you think about rescoping the building or something?

A: The implications really are that we would have to redesign the building. We've scoped the current building. Things have been taken out that were in the original plan. The decision has been made to completely redesign the unaccompanied officers housing, so that will come later. If we build the academic building and the classroom facility, right now the first officers that go out there won't go into the unaccompanied officers quarters. They'll be billeted somewhere else, hotel or motel, for the first year or so. So, it's already not the optimum. We've scoped with Fort Leonard Wood the existing buildings.

If we don't get a reprogramming, we have to go back and redesign a new facility. Redesign is a year or two-year process, so we certainly will have a major break in the schedule. If that takes place, then the idea is we'd have to redesign the facility and then we'd pick a new date and do it all over again. Meanwhile, we're sitting down here with a lot of empty positions and it'd be a major disruption. I see no other alternative but to redesign the buildings.

Q: There's no way you can do anything else.

A: Philosophically and logically and the only way we should have it is that we shouldn't move until we've got facilities out there that are appropriate to the mission. Those facilities include an academic building and a headquarters building. Headquarters is not just the headquarters as we know it at Abbott Hall here. What we're going to do is put the other directorates that aren't teaching directorates—that is, Combat Developments, the Directorate of Training and Doctrine Development, the Directorate of Evaluation and Standardization—that are so spread

out here at Fort Belvoir in different buildings all in one building. Those facilities are needed before we move.

Q: And, of course, if you don't move then it just goes on back, doesn't it? Causes lots of problems.

A: That's right.

Q: How much time have you spent on this particular aspect of your function?

A: The school move?

Q: Yes.

A: Oh, I don't know, quite a bit of time. I guess I've never thought about that aspect. What I have said is that breaking down my time—I spend about 85 percent on proponenty-related functions. What I really say is that I wear three hats. I really wear two hats, commandant of the school and commander of the post. The commandant of the school has two connotations, and I break it into two parts. One is being the school principal, that is, operating the school and doing those training functions associated with the classes every day. The other one, still a school commandant function, is the engineer proponenty function, which involves a total force doctrine, force modernization, combat developments, and so forth.

That makes the three hats, with the commandant broken into two. I spend 85 percent of my time on the engineer proponent functions, 10 percent of my time on school principal functions, 5 percent of my time on running the Fort Belvoir installation functions. That's how I see the demands on my time. Now, I would put the school move into the proponent part of that 85 percent. What percentage that is, I don't know. We established a year ago the Engineer School Transition Office, as a functional element to do the direct liaison with Fort Leonard Wood, with Headquarters, TRADOC, and work with all the staff. I made the assistant commandant the principal guy for pulling all that together. He can coordinate directly with the chief of staff of Fort Leonard Wood and keep all those various things pulled together.

Q: Is there anything further you want to discuss about the move or planned move?

A: No, I can't think of anything at the moment.

Q: What is your evaluation of the strengths and weaknesses of your subordinates? That includes senior officers, junior officers, noncommissioned officers, soldiers, and civilians.

A: You're talking about in general?

Q: In general, right.

A: You're talking about the ones at the Engineer School here, rather than engineer force?

Q: School and Center, right. Now, if you want to talk about the engineer force, that would be perfectly acceptable.

A: Well, I think at the Engineer Center we've got probably our cut of Army talent. That is, I'd say we've got top third, middle third, and some bottom third kind of folks. We've got some folks who are very good, very talented, some of the best I've ever seen. We've got some who haven't pulled their weight, and they stay in the background while the first group does the work, like in many places.

I would make two specific points. I don't know if I talked about this last week; maybe I did. The fact is that we went out to MILPERCEN over the last couple of years and tried to bring in some very talented folks, not only high-quality officers—that's whom I'm speaking of in this instance—who had great credibility among their peers be they engineer or maneuver, but also people who had a broad perspective of combat engineering on the battlefield, specifically with regard to maneuver. We focused our efforts to get that kind of talent. We brought in lieutenant colonels who had been to the National Training Center with their battalions, lieutenant colonels who had commanded in Europe, a lieutenant colonel who had commanded in Korea, and one who had commanded in Hawaii. We went after talent based on reputation and demonstrated capabilities and potential, but also because of their perspective of how things were in the Army. That was a tight, small group, really, but in the amount of talent there it was a tremendous wellspring of capability that we hadn't had before. That was one aspect.



General Kem met with Israeli Defense Force officers during a visit to Israel while he was Commander of the Engineer School.

The second comment I would make is that we have some very good people but they're not fully effective in the jobs they are in because of the Army's continued movement to pull down the strength in the field grade level of the officer Corps within TRADOC. A specific example: we've decreased 30 to 35 percent in the number of majors we're authorized in

terms of officer distribution policy, that is strength support, to be replaced by captains. When you do that and you get a captain out of his first assignment plus advanced course, then you're getting a person who's got a very narrow perspective, a perspective of only one unit. With engineers that could be a combat heavy perspective, or it could be a divisional combat perspective, or a topography perspective, or a training perspective, or a divisional perspective. When we put somebody on that platform, we want somebody that has the broader perspective to be able to teach others. So, although there are some very good people here, because of their lack of breadth of experience, we don't get a full capability in effectiveness in the job they're supposed to do as a teacher and as a writer of doctrine. They're really too narrow in experience to be fully effective.

So, when you talk about kind of people, I'm putting it in terms of authorizations for people and making the point that we really need more majors at this place where we're training captains—not more than we're due, but our full share of what we're due in terms of what the structure people say we ought to have.

Q: So, the basic problem is one of authorizations; you don't have the authorizations?

A: That's right. It's the officer distribution policy. It's how the Army allocates the available officers to fill what's authorized worldwide. We're continually resourced at a level considerably less than what we're authorized in majors with captain substitutes, and that hurts very much at a training base.

Q: Nothing that can be done about that, though? That's set at the Department of the Army level?

A: Well, I think we could stop the downward spiral of staffing and officer cuts, which has lots of different parts. Congress has mandated an officer cut, I've heard. The Army has tried to establish new divisions, and to find the capabilities to do that has caused a down trend in officers elsewhere. I guess what bothers me is from time to time you hear that we can do these reductions without any hurt, and what I'm saying is, it does hurt. We tend to look at this year's cut against last year's numbers. If 20 was okay last year and you get cut 2 to 18, that shouldn't hurt too bad. That doesn't reflect that over the five years you've been cut from 30 to 20. So, now you measure 18 versus 30 rather than 18 versus 20. So, yes, something can be done about it, but it really takes a recognition throughout the Army. It's a recognition that we need people with the right kind of experience and perspective in TRADOC schools so that we can have that capability to develop our future leaders.

Q: What about enlisted soldiers?

A: The noncommissioned officers we have here at the Engineer School, I think, are superb. I've been impressed with the senior sergeants major in the battalions. I think we've got a fine engineer noncommissioned officer Corps that cares for their soldiers and knows a lot about what they're doing. I think once again we have a bottom third, a middle third, as well as a top third, and I don't begrudge that because you have to recognize I am talking about the whole installation.

We certainly handpick the captain who's going to be a team leader in our officers advanced course. He has to have a breadth of experience, he has to have proven leadership capabilities, he has to have the recommendation of a couple of former battalion commanders and a branch chief. They're all selected on their abilities as a leader, coach, potential mentor, and so forth. We try to put the right person in each different job. We have jobs here that get done and don't necessarily require brilliance. The better people you have, naturally, the better it's all going to be.

I would like to have more good junior officers with perspective to put in the Combat Developments Directorate because I think that's a weak area here as we've stretched out the numbers. In the combat development arena we bring this same person back to Fort Belvoir and we pick one to go to the advanced course and one to combat developments. When you're limited by number of majors and above and you get mostly captains, you're bringing here a person who's had one or two tours and the advanced course as his level of experience. He's been in troop units—that's what he knows, and probably did that very well—but now we're asking him to do work in a whole new field that he hasn't been trained for, combat developments—to write papers that will defend, win or lose, an engineer system, and they might be writing those papers for an Under Secretary of the Army or a congressional staffer. Now, I never did that until I was a lieutenant colonel assigned to the Pentagon. I wrote papers at lower levels but not to the degree of editing them down to be the hard-hitting, very high level things that you read in the Pentagon.

Then that becomes a burden to that officer's bosses because they now have to work harder to develop that person and let him know what's going on, and in what's a very supercharged, stressful arena anyway, combat developments, that extra burden for the bosses takes its toll. Once again we're talking about level of experience.

Now, the implication of your question might be that we're not getting good folks here. I want to dispel that. I know that in times past, people didn't want to come to the Engineer School. It was always said that infantrymen want to go serve at the Infantry School because that was felt to be career enhancement. I was always told that you don't want to go to the Engineer School because that's not career enhancing, vis-à-vis other things. I would like to think we've turned that around. I'm told by some that we have turned that around. I imagine there are others out there who still say the opposite, who aren't talking to me. Nevertheless, we are hand picking lieutenant colonels out of the War College, majors out of Fort Leavenworth, and people see the caliber of people we have here. People have seen that we've had three Engineer Branch chiefs—Paul Chinen, [Peter G.] O'Neill, [John Paul] Basilotto—all assigned here after leaving branch, and people have seen that we've had people selected for brigadier general out of here, for colonel below the zone out of here, for lieutenant colonel below the zone out of here. Hopefully the word is getting around that our selections for Fort Leavenworth and the War College are higher than the engineer average. People see that of last year's sixteen engineer colonel command selects, three were assigned here and one had just left; that's 25 percent. When those kinds of things get around and about, I think people see that if they come to the Engineer School, that it's not career damaging; it is probably, if they perform, career enhancing.

Second, you're going to work for good people here. So, when you come and you're going to be working with and for the Paul Chinens, the Ted Vander Els, the John Fesmires, the Paul DeVrieses, the Bob Whitleys, the John Schauffleburgers, the Russ Fuhrmans, the Tom Farewells, the Rick Capkas, the Al Carrolls, guys who are obviously right at the head of their peers in their respective year groups, then I think that we're getting good publicity. At the same time, I'm not sending a list to Engineer Branch saying, "I need your 40 best majors"—but I'd sure like to have 25 of them.

Q: It takes a long time to unmake those kinds of things, those myths or those things that used to be.

A: It does. That's why I caveated my response. I think we've turned the corner, but I know somebody out there still thinks that way. It's very difficult to communicate to the whole force. Just communicating to battalion commanders is difficult. I came here with the thought that we've got to do better as proponent communicating to battalions about our work. We sent messages to the field, messages to every active battalion commander, every total force engineer battalion commander. Yet, it's amazing to hear somebody stand up and say, "How come you never do this?" when I know it was the subject of a message six months before, fully laid out. We received responses from some people for communicating that, yet here are two or three people who never even heard of it. Because we turn over so rapidly in the field, we don't retain an institutional base of knowledge out in the units, and the myths are very difficult to turn around, even with facts.

Q: I guess a lot of it may be because of the division between the school and the Chief of Engineers' office. Would the infantry and armor and field artillery be much stronger in that area?

A: I don't know if I necessarily agree with that. I guess there's potential, but we should be better because we have at least two spokesmen now on the circuit talking, the Chief of Engineers and me when I go out as proponent. General Heiberg and I early on decided we would like to speak with one voice and recognized keeping each other informed was an important part of that. When he goes on trips, he has his people call down here and say, "What's the latest?" or "I'm going over there; any subjects I should know about?" We know when he's going. We try to prepare him with some papers, usually not a lot. We've both been in our positions long enough now to have a real feel for what each knows and so forth. If he gets a question thrown at him, he'll say, "I'll get you an answer." He comes back and bounces it to the Office of the ACE for an answer, copy to us so we can work with the ACE to get the answer. We should be more effective in communicating as long as we stay in one voice, and I think we've done that pretty fairly.

Q: To what degree did your position involve direct contact with the civilian community and what were the nature of those contacts?

A: You're talking about the surrounding civilian community from Fort Belvoir?

Q: I assume that's what this is, yes.

A: Considerable and yet not so much. I think it is like on any large Army post, we've got those kinds of contacts, but it may be different just because of our location. Fort Belvoir is in the National Capital Region and is the subject of considerable visibility. We are absolutely in a fishbowl here with everything we do. Also, then, we're small potatoes to the surrounding community. When something happens here, we have immediate visibility with all the national wire services and networks. When the Secretary of the Army and the Chief of Staff put out their no-smoking policy, all the networks came down here to interview soldiers as to what they thought of the secretary's policy. Now, as commander you might say, "Gosh, I wish they'd find somebody else," but I'm local and I have soldiers, and the networks don't want to go too far, so that's what happens. So, we make them available. When we court-martial a doctor in our hospital, then we have the national wire services sitting there in the courtroom with their cameras. The *Washington Post* runs a picture of a sergeant major whom I removed, with all kinds of accusations, later to be proved invalid.

So, we get a very high visibility from where we are located. By the same token, though, it's a big bustling metropolitan area with lots of things driving it, as opposed to a place like Fort Campbell, Kentucky, a huge division installation much bigger than us but with small surrounding towns where that commanding general knows congressmen and senators and all the rest of it. Around here we don't quite attract that kind of interest unless it's potentially something big.

My interaction with Fairfax County, which is the local jurisdiction around us, is a very pleasant one. We deal with them professionally at all levels. The Fairfax County school system runs our schools. We then interact with Hayfield secondary and middle schools as our schools. We have two Fairfax district supervisors, that's the governing body of the county, in our area. The greater part of the post, south post, has one supervisor. Another supervisor has the northern part of the post. We have often had meetings with them or their staffs concerning items of interest. On the one hand, one supervisor is very cordial, very much wants to have a professional relationship. The other one takes the more old-time politician's view that if you can hammer them, you get your news space and then work out the details after the noise has subsided.

Our military police deal with county and state police continually because we have open county and state highways that run through the installation. We have joint jurisdictions and we have great cooperation with them. In fact, when we have our receptions and get-togethers—there's a spring reception and fall reception—we typically invite the Fairfax supervisors, the school boards to include the Fairfax County school superintendent, and the police chief and his subordinate chiefs to those functions to maintain those kinds of relationships.

Q: You only get in somewhat hot water when you have things like the relocation to Fort Leonard Wood, the Springfield bypass issues?

A: That's right. At the congressional level, we got interest when we were potentially moving. There are too many other acorns around, I guess, from that standpoint.

Q: Well, in that case, once they were assured that there wasn't going to be any net loss of positions or something like that.

A: That's right. When we went to Congressman Stan Parris and demonstrated it was a net gain in people because of the relocation and other people would be moving to northern Virginia to offset these leaving, that issue died down. We never had any senatorial interest pro or con.

Q: Describe the efforts undertaken by your organization to promote the "Total Army" concept.

A: Well, engineers know total Army like no one else knows total Army because 70 percent of the combat engineers are in the reserve components. So, in fact, we pretty much do talk total force. We talk about doctrine, of course, and you don't talk about which kinds of units—who's going to fight that doctrine—but just talk units and how they fit into AirLand Battle. When we start talking force structure and manning the force, then we very much talk about and organize who's in the active force and who's in reserve components and who's going to be available to reenforce a NATO or one of the other contingency plans. We have reserve component advisers on our staff, one from the Army Reserve and one from the National Guard, who participate in everything we do.

Our annual commanders conference is a total force commanders conference. We invite from all three components. Most of the engineer general officers in the troop units are in the reserve or guard and support that conference very well. We put them on the program—usually Capstone, that is the interrelationship of units depending on mission theater for deployment. One other aspect, of course, is that the engineer force right now is sending many different battalions to Latin America, SOUTHCOM [Southern Command], to do engineer work down there. The Engineer School is involved in that effort in publishing lessons learned, making sure deploying units are prepared, and that sort of thing. FORSCOM's involved in all components: active, guard, and reserve. This last year at our commanders conference we had one session oriented on Latin America, headed by the active duty colonel SOUTHCOM engineer, which had had briefings by battalion commanders from all three components. We also had the USAREUR engineer talk, and then we had a session having to do with engineer operations in the communications zone given by the commander of the 412th Engineer Command (Army Reserve), which included subordinate units that were active, guard, and reserve. Then we followed it with another theater, southwest Asia, and the 416th Engineer Command (Army Reserve), which once again had subordinate active, guard, and reserve units. So, we basically deal across the board of the total Army.

As we went into the Army's regimental system, we from the school and General Heiberg always felt it should be total force. At the time the Army Reserve and the National Guard were holding back. The Guard said, "Don't call us; we'll call you if we're interested." We then went at the leadership of the Reserve and the National Guard in the person of Brigadier General Dick Dean, who was an engineer in the Army Reserve, and said, "I don't know what your problems are with the Army's regimental system when it comes to regiments." I think, potentially, the Guard and Reserve may have wanted to avoid the great changes of flags—all of that caused quite a commotion in the active force in the infantry, armor, and artillery. Once we explained how the engineer regiment would be a whole branch concept—emphasizing

both the Corps and the battalion, the concept fit very nicely, and it would be total force with 70 percent of the engineers in the reserve components—then both agreed.

Q: This is as good a time as any to talk about the regiment and your role in getting that established.

A: Well, I think it was probably a pivotal role. When I came into this job, my predecessor had, with the Proponency Office, tried to put together a regimental system of engineer regiments pretty well based like infantry, that would group battalions into a regiment with a regimental crest and that sort of thing. Combat heavies would be grouped together, lights grouped together, and the combat battalions (divisional) would be grouped. Then there was a try to work it out so a person could have reassignments between different places while serving in the regiment. For instance, in one regiment the person would rotate between Fort Polk and Germany, then back to Polk, and so forth. Another regimental rotation might be from Fort Sill to Korea and back to Sill.

Shortly after I came in, I attended a proponency meeting, in November of 1984. I found the Chief of Infantry, Major General John Foss, quite unhappy with the way the regimental system was working, and he felt like challenging the system from the standpoint of infantry. What he was saying coalesced with my own thoughts too. I didn't like what I saw. What I didn't like was the fact that already five of those engineer battalions had changed in the force structure. For example, one combat heavy battalion was now going to become a light battalion. So, in the regimental grouping within a group of combat heavies, then it wouldn't fit. More specifically, though, I didn't like the fact that with the officer Corps we were going to develop specialists who would only know Fort Polk and Germany, and somebody else who would only know Fort Sill and Korea. I felt that our officer Corps ought to develop and have a breadth of understanding that was across the board. We ought to know what combat heavies are like; we ought to know what Corps battalions and divisional battalions are like and how they interact. I felt strongly there was a real need for that. We don't want specialists—all light, all heavy, or all combat heavy—and that was exactly what John Foss was saying. He didn't want all Bradley infantrymen, or all airborne infantrymen; he wanted people who had more, not fewer, kinds of experience.

In the meantime, there was a lot of ongoing consternation about this new system. Lieutenant General Bob Elton, who chaired the meeting, held a roundtable about the new regimental system, and there was considerable discussion on what was involved and what should be done about it. The DCSPER folks went back and took a relook at it with the Chief of Staff and, basically, from that, disassociated the assignments part from the Army regimental system. In other words, no longer would you have to go between Fort Polk and Germany, but still the idea would be to affiliate with a regiment and have some volunteer kind of home basing. So, for noncommissioned officers and soldiers, you might well want to buy a home in the vicinity—voluntary home basing could get them back to Fort Polk if that's where they wanted to come home to.

As we addressed the engineer regimental system then, when that assignments plan was removed, our thinking continued to evolve. I'd been dialoguing with General Heiberg, and I

brought him my concerns first. We had several times discussed different kinds of options, different approaches. The whole branch concept was out there, but there was a connotation that this was not combat arms, that it was only for combat service support. So, there was a lot of emotion about it. Some people felt we had to be in regiments like infantry and artillery. Others felt we just had to be in something. Everybody else was now starting to wear regimental insignia and still engineers weren't. We'd get these messages from the field; we had to do something. So, General Heiberg convened a meeting of some retired senior officers. I can't recall specifically who was there, but I believe it included Clarke, Morris, [Frank] Camm, Bachus, and LeTellier.

General Heiberg and I were there, and after he kicked off the meeting I gave a little brief just to start to get the discussion moving. Our intent was really to get the counsel of these alumni to help us sort out where we were. We got the same crosscurrent of different thoughts—got to be like the other combat arms, got to be whole branch; can't we do something—we just had all kinds of things on the table. I came out of that meeting about as muddled as I went into it. I sat down just trying to figure it all out and wrote a think piece with some questions on the subject.

I tried to throw out a question, then answer the question and just let the logic come out. What I really did was to just put my own thinking to paper, and that brought me around to believe that we should have a whole branch concept—because our engineer allegiance, most specifically officer allegiance, is to the Corps as a whole and the history and the heritage of the Corps. Our noncommissioned officer allegiance, I felt, was to the unit. Because we have the soldiers and the noncommissioned officers trained at Fort Leonard Wood only coming to Fort Belvoir when they go to the advanced noncommissioned officers course and officers trained at Fort Belvoir maybe never going to Fort Leonard Wood, we never brought the two together. We are going to have that opportunity with the school coming together at Fort Leonard Wood in 1989. So, for officers, battalions and regiments as regimental focus would be artificial. I recognized there were general service regiments and regiments in World War II, but that kind of history is long gone. What I mean is that when we're starting to talk bonding and all the kind of thoughts that General Wickham was talking about, then we're talking about a more immediate, personal kind of thing, more allegiance than periodic adjustment. So, trying to set up put-together regiments, in my mind, was artificial.

I wrote the paper as a think piece, and it just seemed to come out that we ought not to have a regiment in the infantry regimental scheme of things, but we ought to find a solution that allowed us to keep the strong bonding that the Corps of Engineers has now to its people and at the same time emphasize where engineers serve, and that is in battalions. So, the paper came out that way and I sent it to General Heiberg. He wrote back and said he agreed, and we proceeded in that way. [See Appendix B.]

Now, there's one other aspect I think will be of particular interest to you about the engineer regiment. Early on, even before what I've just described, both General Heiberg and I had discussed, and both of us recognized because we both had served at both the headquarters and in the field in USACE, that the question comes up, "What about USACE? How does that fit?" Both of us had the feeling that we already had in USACE one of the strongest bonded

entities in the United States Army, that the strength of USACE is in that feeling within the Corps, civilian primarily, the basic work entity throughout the Corps of Engineers and all of its districts and labs and every place else. Whatever we did, we did not want to disrupt or take away from that bonded entity.

Note that I have used the word “bonding” several times because that’s what General Wickham emphasized we wanted. The system was to focus on bonding the unit. I know General Heiberg felt, and I feel, the obvious bonding of the Nashville District or the Huntington District in the Ohio River Division. There is a focused feeling that I had when I was there that I heard General Wickham describe when he was saying, “I want to achieve that elsewhere.” So, we said that we did not want to disrupt that. We did not want to take this Corps MACOM in and the USACE crest, for instance, and move it over to accompany a larger entity. We wanted to keep USACE and that crest, patch, all as one entity.

Then the question came in, “How about civilians? Are they part of the Corps and the regiment or are they not?” After really thinking about that a long time, we decided, no, they weren’t because that’s not the definition of the Army regimental system. Is that a problem? No, it shouldn’t be because we’ve still got USACE, this strong, bonded entity.

So, we looked at the two parts of that and we felt very comfortable with where we were going and the fact we were not taking away from USACE, nor were we trying put it under. It stood out there as a major Army command, and we’re talking the Corps and we’re talking battalions in the Army regimental system.

Out of all that, we took the think piece that General Heiberg agreed with, boiled it down into an action paper, and sent it to DCSPER for approval. DCSPER approved it.

Q: Now you’ve implemented it all?

A: Now we’ve implemented the regimental concept with several significant occasions. One was the unfurling of the flag. We picked former Chief of Engineers General Fred Clarke and Sergeant Major of the Army Leon Van Autreve as the first colonel and sergeant major of the Corps, respectively. We’ve converted all of the training brigades and battalions at Fort Leonard Wood and the Engineer School at Fort Belvoir to engineer numbered brigades and battalions, thereby bringing back the heritage that all of them can enjoy. We have a committee under the assistant commandant here that’s always trying to develop new ways to try to build in this. I’ve visited the British Royal Engineers’ institution at Chatham to learn from them. So, we have implemented the engineer regiment, and there are more things yet to happen, such as trying to emphasize engineer battalion heritage. The Corps is easy because it’s there, but battalions are individual.

I should say, there was one other thing we wanted to do. We wanted that engineer’s affiliation with his or her battalion to be like the infantryman’s association with his regiment. We felt we could not impose upon the battalion commander the same things we imposed upon the infantry regimental commander as far as maintaining rosters, having a museum, and doing all of those things. We felt it had to be a little looser than that because some battalions,

such as the 307th from the 82d Airborne Division, have a lot of tools and implements; they could put together a museum readily. They've played history and heritage for years and they've got quite a package, where others never have thought of it much.



The first Honorary Colonel of the newly established Engineer regiment, called the Corps of Engineers, Lieutenant General Frederick J. Clarke (Retired), former Chief of Engineers, passed the colors of the regiment to General Kem, Commandant of the Engineer School, at the unfurling of the new colors at Fort Belvoir, Virginia, on 23 June 1986. The colors remained at the ceremonial home of the new regiment, the Engineer School, then at Fort Belvoir, Virginia. Sergeant Major of the Army (Retired) Leon Van Autreve (second from the right) was the first Honorary Sergeant Major of the regiment.



From left to right, Lieutenant General Elvin R. Heiberg III, Chief of Engineers and Colonel of the Engineer Regiment; Lieutenant General Frederick J. Clarke, Honorary Colonel of the Regiment and former Chief of Engineers; and General Kem at the ceremony establishing the regiment.

We wanted our engineer battalion commanders to stay concentrated on leading, maintaining, training—those things he's got to do—without having this as a burden. So, we asked the Chief's historical folks to put together a package that will assist these battalion commanders in doing that sort of thing. That package is a short history, some capability to provide a card of basic highlights of the battalion's heritage to give the individual soldiers, and some kind of a thing to put beside a plate at a soldier dinner or a dining-in or something like that. We got a lot of good support from you in the Corps' Historical Office in putting that prototype together.

Q: We'll give you a running account of how well we did; keep you informed on that one.

A: I knew you knew all that; I just thought I'd put it on the tape, though.

Q: Good to have for the record. [Laughter] That's something we still have to work out. Probably I was remiss in not working with you more on that.

A: I told Paul Chinen, as the new assistant commandant, that he is to step in where Bob Whitley took off. Bob ought to debrief him on what his jobs are as part of this committee so he can take over, so there'll be some opportunities.

I guess there's one thing that's been very difficult, and that is to get people to stop using the term the "engineer regiment." Once again, it's sort of those myths, it's hard to put down. "Oh, we have an engineer regiment." No, we really don't. We really have the engineer Corps. Is it a new Corps? No, it's the same Corps of Engineers, but we're now organized as an official part of the Army's regimental system. So, we're not an engineer regiment; we're an engineer Corps in the Army's regimental system. That's consistently what is said, but it's very difficult to say and, too, we print programs and other things that continually talk about the engineer regiment.

Q: One of the things that we need to work out is to provide the Corps of Engineers, as part of the Army's regimental system, with historical support because you don't have it at Fort Leonard Wood.

A: It's interesting when you say that. The British have the institute. They have an organization that is all financed out of soldier pay. They take two and one-half days' pay from every officer every year and a certain amount from the soldier; I think it's half a day, it might be a day's pay. That is the income into the regiment to run what they can do, but out of that they do a lot of things. They publish their magazine, they maintain the rosters, they buy the regimental silver—and they have some wonderful silver that stays in the regimental mess at Chatham. They also run their own welfare system for hardships in later life; in other words like Army emergency relief. All of that is done by a small group; I don't think there's more than 30 or 34 folks in offices there. So, they carry support to a much higher degree than even ours.

I didn't mention that we have picked, of course, the home of the Corps in the regimental system is Fort Belvoir until we move the school. So, the home of the Corps is the school, wherever it's located.

Q: As it should be. The problem is with the Chief of Engineers and all of that. I don't know if it's ever going to be resolved. I guess a new generation.

Can you describe a typical day in your position? I know this'll probably be almost impossible.

A: No, I really can't because there are several kinds of days. They're the kind of days that I get so seldom, and that involves being able to get out and go visit training, advanced course students, or basic course students. A lot of my days are days where I go get on an airplane, first thing in the morning, and go flying off to Fort Leavenworth or Fort Monroe and come back two days later; so those days are completely away from this place. If you would want me to describe a typical day at Fort Belvoir and the realm of what kind of activities we have here, basically, I come in at 7:15 and at 8:00 we have a morning update for 30 minutes where I get the command group together—the assistant commandant, chief of staff, the command sergeant major, the public affairs officer, and the Secretary of the General Staff—and we would review the day to come, major events coming and so forth. It is a quick runaround, don't try to make decisions and solve things; it's not decision briefs. Basically we're looking to make sure we're all on-line and things are getting taken care of. It almost never went more

than 30 minutes. We invited the brigade commander, Colonel [Roger Charles] Strom, in on Mondays and any other day he felt that he ought to be there to talk about something.

After that we then very typically went through a busy day involved with decisions, decision briefs, or meetings. It may well involve a trip to the Pentagon to meet with an Army staffer. I would go over to the congressional staff to meet with them or it might be to AMC for a meeting there. It might well involve my going to the brigade or to the school to see training or a class. It would most certainly involve a couple of hours, at least, spent on combat developments, either by their coming here to talk over some issues and getting guidance or being on the phone talking to six or eight people about some materiel item that there were issues with.

Invariably, I did very little paperwork during the day. I would typically use that time for interaction with subordinates, be they base operations, school, combat developments, or training, so that we could keep the business of the school moving on. Typically I took home a briefcase or two in the evening; on weekends three or four. I did most of the paperwork in the evening until 11:00, primarily because the daytime was for subordinates, giving them guidance, hearing what they had to say, trying to lead them, giving them perspective, guiding them in what was going on.

Oftentimes, once a week, we'd have a reception in the evening for the officers advanced course.

Q: How much has the lack of a brigadier general as the assistant commandant hurt you?

A: I think it's hurt us considerably because a lot of times I go to meetings because I feel that we have to be there with a general officer, and I find the assistant commandant of the Infantry School or the assistant commandant of the Artillery School are covering that meeting. What that really means is that the commandant could be somewhere else, thus doing two things that require the presence of a general officer. I think what that means is our assistant commandant, being a colonel, is pushed down and does two tiers of things. At one tier, the lower tier, he's running the day-by-day activities of the school, which really should be done by a deputy assistant commandant. At the other tier, the upper tier, he has difficulty getting into some of those arenas just because he's a colonel; shouldn't be that way, but that's the way it is. So, when you look at the Aviation, Artillery, Air Defense, Signal, Infantry, Armor Schools—all have brigadier assistant commandants. You can see that that's a problem for us. We've got the National Capital Region; we've got the place where the Secretary of the Army decides to come down and plant a tree one day and other things that engage our time.

Q: How do you go about trying to restore that, or is it possible with the Army's general officer loss then?

A: Of course everybody wants general officers. The fact is that it will be solved when we move to Fort Leonard Wood. The brigadier general at Fort Leonard Wood now is an infantryman. After the school move, that will become an engineer brigadier and be additionally the assistant commandant.

Q: In the meantime, you lose a two-star engineer once you're out there so there is no net gain.

A: That's right. One of three positions goes away. We'll end up with one major general and one brigadier general of engineers. We will then, in fact, have an assistant commandant who will then be involved in the combat development side of the house and the training side of the house and all the rest. That brigadier will be able to speak for the commandant and represent the views of the proponent. That's where it really counts. We can send our current colonel assistant commandant down to talk to the Chief of Engineers, and he's as good as anybody else, fully acceptable. In some of those other arenas out there at meetings, you don't even get a seat at the table unless you're a general officer. The colonel finds himself in the back row and less effective.

Q: That's another positive thing to be gained from the relocation to Fort Leonard Wood, then, a little more subtle, not as much up front as the others.

A: Yes.

Q: What is the one area in which you did not make the progress you had hoped, and what do you attribute that to?

A: Well, I guess the most frustrating thing I've fought since I've been here is staffing for combat developments most specifically. We rank ninth in staffing in combat developments in TRADOC. We rank second, fourth, or fifth in all the items that you count, like numbers of systems, number of SRCs or type units, numbers of sets, kits, and outfits we manage. I look with a little envy at Knox who worries about armor and Cav, tanks and Cav vehicles, and about the same number of officers in the active force but many more folks in the Department of Combat Developments.

The job at Knox, from the standpoint of the Department of Combat Developments, has got to be more simple than somebody who's here working in the multiple mission areas where we are addressing countermobility, mobility, survivability, topography, and sustainment engineering, each with different sets of systems and tools. The engineer carries a bunch of different tools in today's battlefield so that others don't have to carry them. I mean, with the tankers we bring in the CEV, the AVLB, the digger—the M9 ACE or the D-7—and we need a breacher. We have all the different implements so they can have that single focus on direct fire kill. Artillery's got the indirect fire mission. So, we sit out there with an M-60 AVLB and an M-60 CEV trying to support a battalion task force that is equipped with M-1 tanks and the M-2 Bradley with the infantry component. That's four systems, three branches; we've got two of the systems. The other two are modernized.

So, we're playing catch-up across a lot more different kinds of systems, a lot more different kinds of units, more different sets, kits, and outfits than anybody else, and yet we're ninth in combat developments staffing. So, I mean, it's just vexing to me. Not only that, engineering modeling lags everybody else's because modelers look at total force, which replicates armor, infantry, aviation, and so we also have to play catch-up, yet we only rate ninth in staffing vis-à-vis all the rest of them. What we're talking about are turning out the documents, the

operational and organizational plans, the requirements documents, all that staffing stuff that gets you into the game to get one of these improvements. So, my most frustrating thing is I have not been able to solve the combat development staffing problem, although I've gone directly at it. We really get a wave off. They really say, "Well, yes, you've got a problem. We're working on it." Then it goes on and never gets solved because the system's too big. We're fighting a whole spaces bureaucracy, then a whole faces bureaucracy.

Q: So, that's something that really is, what? You attribute that to just pure personnel management and space management?

A: That's not personnel management; that is space management. That's convincing people that they ought to take away from other folks that have them now and put them here. In the past, whenever we've lost, it's difficult for them to give it back. If we're ninth in staffing, to get us up to, say, fifth in staffing, they've got to take spaces away from somewhere else in TRADOC. It might be the Armor School or Air Defense School, and all those people will scream. So, it's very difficult for those decision makers to do it, and so they don't do it. They just pass it off, and then the people change, and there we are.

Q: Back to square one again.

A: Back to square one. It's very vexing to me. The USACE system of staffing that I used to fight with all the time was much more amenable because it could change. USACE folks, especially in the construction arena, are used to stopping projects and starting projects, moving people, hiring up and closing down. I really became convinced that the construction arena was very mobile, and they know how to do that because they've had to do it so many times.

Q: Everything being project related?

A: That's right. If you're not earning, you can't hire against it. So, those chiefs of construction in all of our districts and divisions in the Corps know well that you've got to meet the bottom line and they do very well at that and make those tough decisions. The Army, with its insatiable appetite for more brand-new things, jumps out and resources a new thing, not recognizing that they might have been better off to spread those resources out on fixing the old things. By establishing the new things, then they have to go back and pare down all those old things once again. So, we're always chasing the new initiative. Us folks trying to play catch-up with the less sexy kinds of items just don't have the time or people to put on it. So, we're behind in our operational and organizational plans; we're behind in our required operational capability. It's very difficult.

So, your question was, "What's been the thing you haven't done most?" That's the one I would put on the table. It's the one I talked to my successor most about, and it's written up in my end-of-tour report.



General Kem (center) presented a commemorative painting from the Engineer School to General Bruce C. Clarke (Retired), a prominent Engineer officer, on 10 March 1987. On the right is Lieutenant General Frederick J. Clarke (Retired), who served as Chief of Engineers from 1969-1973.

- Q: That answers the question very well. Do you see the time when that is going to be solved, when the rest of the combined arms team is going to realize that unless they help in this area, that the things they need aren't going to be there?
- A: Well, something's got to give. We can't continue building a bureaucracy of paper within the combat developments realm that requires more effort to maintain than the current staff. Do I see any great number of folks out there? No. I see us moving to Fort Leonard Wood, getting established, starting a staff up there, getting stability, and then two by two, four by four, working out the appropriate level of staffing and at the same time trying to cut down on lost effort that's in our process now. Our process meaning the TRADOC process whereby we send things to CAC, it's sent back and redone and sent back to CAC who approves it and sends it to TRADOC where it's sent back to be redone, and part of what CAC did has to be redone and part of what we did has to be redone and then it goes back up. TRADOC is

finally ready to send it to the Department of the Army who sends it back to TRADOC saying, “Not quite right,” and yet we’re staffed for doing it just one time.

Q: It’s just a bunch of paper shuffling after a while.

A: We’ve got to find a way to coalesce the people, decide what it should be, and write it for us, CAC, and TRADOC all at once with a little fine tuning later on.

Q: That’s where a lot of the wasted man-hours are then. That’s familiar; we go through that exercise. Do you see that the work you’ve done with the combined arms commanders is going to have a beneficial effect on this kind of thing?

A: A beneficial effect to the engineer force, or beneficial effect to staffing?

Q: To solve such a problem like this because really it does affect their mission.

A: No, I don’t think so because we all compete for school staffing.

Q: No, I was looking at it in terms of the maneuver commanders’ interests, trying to say that these are things that they need and the perception that can they bring any influence to bear as a result of the whole mission area work you’ve done?

A: Well, I think they’re very supportive. In open forums they stand up and say we need E-Force. General Tait at the Armor School does that. General Burba, the Infantry School commandant, has said that. He said, “The thing I worry about most is my combat engineer support.” When you come down to combat development staffing, that’s a level that’s below their ability to have a view. They probably figure it’s going to come out of their hide and not the rest. They have been supportive, and General Tait’s included us in his mission areas and wants to jointly write things up. We still have to take the lead, and we’ve got to write the things and take the things to them, but they’ll support it when we do that. Our staffing problem is that it’s new, innovative work over and above trying to keep the mill going and all the routine things too. So, that kind of creative work takes more resources. So, my problem has been to find a way to do that. We’ve done the work, but our combat developments people are working long hours: 12, 14, 16, 17 hours a day.

Q: Will the relocation provide any relief or solution by combination of what’s here with Fort Leonard Wood?

A: It’s hard to say. From the first standpoint, we see only 10 percent of our people are going to move, civilianwise. Now, we’re talking faces, of course. We should accrue the same spaces. So, we’re obviously going to lose some institutional knowledge and have some transition problems. Already people are leaving us. See, it’s a year away and already people are starting to go elsewhere because they don’t want to move and because of job security; they want to make the move when they can.

At the same time, in the ones we are hiring out at Fort Leonard Wood, we’re getting some very good people. I think the number is something like this: We wanted to hire 17 interns, we

looked at 35 applicants and we hired 17, only one of which had a bachelor's degree; the others were higher degrees than bachelor's degree. That says we're getting a pretty good cut of folks. So, we think the people who will come to us out there will probably be pretty talented, and we may well be able to keep them better in the long term because here in the Washington area, where jobs are plentiful, there's considerable mobility. Because we are a very junior agency under the Department of the Army, we fall down so far on the position classification scale that most people start with us and move up.

Q: I know what you mean. We've got the same problem. We have the same, exact situation for our field. Lots more higher grades at other places.

A: Very close by.

Q: Very close by. Right. They don't even have to move. So, that's the greatest challenge you see facing General Reno, this one in combat developments, or is there something else that you think is more critical, such as maintaining the contacts and the progress that you have made?

A: I think his greatest challenge—let me put it, his greatest opportunity—I believe, is E-Force. Now, whether that becomes a great challenge because it's difficult to push it through, or he's going to be able to build on this wealth of support out among the maneuver commanders as he goes up into the tough arena of the Army Staff, remains to be seen. That's the great opportunity.

Q: We were talking about how General Reno's going to face the challenges.

A: I think that's the opportunity. Why I use the word "opportunity" instead of "challenge" is that E-Force solves so very much. It's an organizational thing that puts the right organizational framework, plus command and control, and the right engineer combat systems to ensure the right place for employing the new systems to best support the maneuver commander. So, it's going to help force modernization. It helps doctrine writing because it sorts out all these ad hoc relationships we've had in the past, so you can write doctrine easier. You write it so it's more understandable to the maneuver guy. Instead of his going out there and not understanding, he will understand, so he'll use his engineers better. He gets a higher level engineer leader to advise him, so the engineer support gets better from that standpoint.

It puts engineers at the right place on the battlefield. Plus, it helps training in peacetime because it reduces the mission-essential task list, where the reserves have such a, speaking total force, such a hard time and the engineers do so many different things. Right now that Corps battalion's got to work from the covering force all the way to the Corps' rear boundary. Now we're going to let the E-Force divisional battalions work from the covering force to the brigade's rear boundary; and then the Corps engineer battalions will be having a simplified mission and will be doing line of communication work, berming, survivability work, reserve targets, and that sort of thing. Because of that, the reserve components, which have that kind of battalion mostly, will be able to focus their training and not have to do things for combined arms integration, which they rarely see and rarely have the opportunity

to train with, so therefore they don't do it very well when they're there. So, they'll be able to focus on a different role now that'll help their training so they'll be more effective.

So, the opportunity is that E-Force solves so many things. It solves getting people broader experience, more people with division experience, more engineers knowing what's going on, solves doctrine, solves training, solves communications, and it works now. We've shortened distances from 70 kilometers to 20 kilometers between units. It solves maintenance because we allow the DCSRM the resources to take care of the engineer battalions. It solves supply because we provide for barrier hauls that've been a problem all along. So, it solves so much—that's the great opportunity.

Now, Bill Reno's challenge is going to be to continue to do all of these various things as I have, balancing the books so you can open the schoolhouse every day with quality people teaching and still get the Department of Combat Development to keep the systems going. We're trying to get this there. So, basically, I borrowed time to create and drive on with E-Force, but because I didn't sell it to final acceptance decision in a reasonable time and it's still there, that's become a burden because other things are still back burned that deserve time. So, it's becoming more and more painful every day we don't get that concept approved. So, his challenge will be to get it as quickly as possible.

Q: So, he's going to really be the one that has to take it now and sell it to the Department of the Army, to senior staff?

A: That's right.

Q: How much experience has he had with it? Being in TRADOC, he must have had a little bit.

A: He's been briefed by us several times. We had him in here and he was briefed thoroughly on it before. He's had a lot of troop experience, not only engineer, but he was the G-3 of the 1st Infantry Division when it came to REFORGER '77, which is the experience that is most vivid in my mind because I was the Corps engineer in VII Corps and the 7th Engineer Brigade commander in that REFORGER exercise, and that's when we wrote up that experience considerably in the *Engineer* magazine. So, he was there at that time too. He will have just been to the NTC this weekend, where he'll get a feeling for what's wrong with engineer support to maneuver in that realistic battlefield laboratory. I think he's well prepared by experience and background and has an intuitive feel for what's right and what's wrong. It'll be a matter of becoming comfortable with all the eases and how it is and that sort of thing.

Q: You would very much have loved to have seen this in place before you left, wouldn't you?

A: I would've loved to have concept approval before I left. It would've been nice to have done that.

Let me say that out of REFORGER '77 we pushed to do two things—mechanize the Corps engineer battalions and, second, to get the brigade engineer established as a position. That was in 1977. As we sit here today in 1987, the next to last battalion in Europe is

mechanizing. That is, the sixth battalion of seven is mechanizing right now; five are done, one more to come. That's 10 years. The brigade engineer has been established now for four years or so. Things don't happen just like that, but you've got to persist and go after them.

E-Force is going to succeed someday. If not now, someday these lieutenant colonels and colonels who had to fight their maneuver battalions and brigades at the NTC and have found their engineer support lacking are going to approve an E-Force because the alternative is not to have any engineers. If they're not able to do the job, might as well not have them. So, we've given them, the maneuver commanders, the solution, and they understand that solution, and they'll buy it when they get up in the ranks to positions of influence.²

Q: Is the work you've done on this one of the reasons you've been selected to go to become the DCSENGR in Europe?

A: I don't think so. You'd have to ask somebody else why I got selected, but, if I were to guess, it's because—well, first of all, the DCSENGR job is primarily facilities construction, maintenance, housing, plus, like the Chief of Engineers, senior staff member at the headquarters for the combat engineer. So, E-Force is only a small part of that. I would say it's more likely the fact that I have had Europe experience and I was in the DCSENGR shop before as the Chief of the Installations and Construction Division, and then subsequently the assistant DCSENGR. I have had that experience, so I have a feel for the arena. That's probably why I was selected.

Q: Thinking that the work you've done there is critical because if you go to war, you are the most important engineer officer, aren't you, in Europe, by far?

A: Well, I don't know. I'm the one that's got the most assets, thinking about it. Certainly, if we go to war, we ought to have E-Force in place if we intend to maneuver.

Q: Do you think you'll be able to influence it from the Europe perspective?

A: I don't know; I'll have to find that out. General Otis already has signed up for it, so it's to the point right here where it's ready to be carried forward and won. If we get concept approval, I'll certainly have the stationing all figured out in Europe to get it done.

Q: All set to go.

A: We'll facilitate the force modernization aspects because one would have to assume Europe would be high up on the priority list for doing it because it's already high up on the equipment list and all the rest of the priorities.

Q: Do you look forward to your new position?

²*Editor's note:* When Lieutenant General Fred Franks, commanding general of the VII Corps in Germany, was alerted to move his Corps to Saudi Arabia for DESERT SHIELD/DESERT STORM, he organized his engineers into E-Force configurations and fought the battle that way. Then on 31 March 1991, Army Chief of Staff Vuono approved the Engineer Restructure Initiative, which was a renamed E-Force with some refinements—for example, the bridge company was deleted. The approval established an engineer brigade of three engineer battalions in each armored and mechanized division.

A: Well, I do. I hate to leave this place because it is so challenging and so much in the middle of everything that's going on and I have total engineer force proponent responsibilities for that. But, as I mentioned, I've been in Europe before, so I know Heidelberg and I know Headquarters, USAREUR. I think it's a very important job. I think a lot of people in the United States Army don't appreciate the MACOM level, the major Army command level. I know I didn't until I was assigned to Headquarters, USAREUR, in 1978–1979.

The fact is that the Army Staff takes care of policy and programming and fights for resources. When you're in units, you're trying to lead and care for troops and do your mission. MACOM headquarters, like USAREUR headquarters, Forces Command, and TRADOC headquarters, is that place that translates between the two. It's the place where they talk upward to the Department of the Army about what the needs are and what resources we need and talks downward to the units about what your needs are, here are your resources, here's how you use them. So, MACOM is the point of translation where you go up and down. Therefore, it's a very important place from the standpoint of educating officers on how the Army works. If you work just at the Department of the Army, you could figure out that the people down below ought to get it all done a lot more quickly than is happening.

If you just work in the units, you might get the feeling that nothing ever comes down from above. When you're at Headquarters, USAREUR, or Headquarters, Forces Command, you understand that what you get from above is limited, that you've got to make the good case of what you're getting from below, package it together so you can make a case for more. Then when you allocate down below, you've got to explain why it's only this much or why you guys have got to do better with your limited perspectives in trying to make the better case to go back up. So, it's really an up/down flow kind of place, a very important echelon of how the Army works in peacetime.

Q: Another challenge.

A: Another challenge.

Q: I hope to be able to come over and do some things with you.

A: I'd like to do that.

Q: Definitely going to follow up on that. I've already talked to my two battalion commanders, who are ready and willing at any time to come over and go back to the Bulge, so we'll get that put together.

A: Good.

Q: Do you have any other conclusions, comments that you'd like to make?

A: Yes, I would like to identify some of the engineer officers that carried the load with me on the E-Force initiative—writing the papers, fleshing out the concepts, doing the numbers, preparing and giving the briefings, and talking to their counterparts at the other schools and in units and commands throughout the Army. Colonel Ted Vander Els and Majors Rick

Capka and Hounng Soo worked initially on developing the many inputs that formed the concept. As they moved on to other positions, Colonel Fred Parker along with Lieutenant Colonels Russ Fuhrman and Tom Farewell and Major Al Carroll, picked up the baton to push the concept on throughout the Army. They all did yeoman work over long hours.



General Kem (center) received the Distinguished Service Medal from the Commander of the Training and Doctrine Command, General Maxwell Thurman (left), at the Change of Command Ceremony at the Engineer School on 6 July 1987. Ann Kem is on the right.

Deputy Chief of Staff, Engineer, USAREUR

- Q: You went to Europe to become Deputy Chief of Staff, Engineer, U.S. Army Europe. That was July or August 1987, after you'd finished your tour as commandant at Belvoir. How did you get that job, how did the opportunity come up, and how was it connected with your time as commandant at the Engineer School?
- A: Well, while I was still commandant at the Engineer School, General Vuono, commander of TRADOC, asked me what I wanted to do next. Well, I told him I wasn't sure. I wanted to stay involved where things were going on, either in the Pentagon; Headquarters, USACE; or